University of Alberta

An Application of the General Theory of Crime to Sex Offenders

by

Diane G. Symbaluk ©

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of DOCTOR OF PHILOSOPHY.

DEPARTMENT OF SOCIOLOGY

Edmonton, Alberta

FALL 1997

National Library of Canada
Acquisitions and Bibliographic Services
395 Wellington Street
Ottawa ON K1A 0N4
Canada

Bibliothèque nationale du Canada
Acquisitions et services bibliographiques
395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file Votre référence

Our file Notre référence

The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de cette thèse sous la forme de microfiche/film, de reproduction sur papier ou sur format électronique.

The author retains ownership of the copyright in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

L'auteur conserve la propriété du droit d'auteur qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

0-612-23076-7

Canada

University of Alberta

Library Release Form

Name of Author: *Diane G. Symbaluk*

Title of Thesis: *An Application of the General Theory of Crime to Sex Offenders*

Degree: *Doctor of Philosophy*

Year this Degree Granted: *1997*

Permission is hereby granted to the University of Alberta Library to reproduce single copies of this thesis and to lend or sell such copies for private, scholarly, or scientific research purposes only.

The author reserves all other publication and other rights in association with the copyright in the thesis, and except as hereinbefore provided, neither the thesis nor any substantial portion thereof may be printed or otherwise reproduced in any material form whatever without the author's prior written permission.

Diane G. Symbaluk
#5 Highwood Place
Sherwood Park, AB
Canada
T8A 0L4

Dated: Sept. 25/97

University of Alberta

Faculty of Graduate Studies and Research

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled *An Application of the General Theory of Crime to Sex Offenders* in partial fulfillment of the requirements for the degree of DOCTOR OF PHILOSOPHY.

Professor J. Creechan

Professor L. Kennedy

Professor H. Boritch

Professor J. Martel

Judy Cameron
Professor J. Cameron

Professor R. Linden

Dated: Sept. 24/97

Dedication

This thesis is dedicated to my grandfather and friend, George Ronald Pugh, whose wisdom has been a source of wonder and inspiration since I was a very young. As a small child, I believed my grandfather was a "war hero" and a "scientist" who could fix anything I broke, and build anything I described to him. Over the years, I grew to understand my grandfather as a man of resolve, who possesses both war hero and scientist qualities which include a curiosity about the world, the courage to fight for one's beliefs, and heartfelt integrity. I hope my accomplishments stand up to his example and my grandfather can be as proud of me as I am of him.

Abstract

The present study examined the applicability of Gottfredson and Hirschi's (1990) General Theory of Crime for explaining sexual offending. Secondary data on 240 sex offenders who underwent treatment at Alberta Hospital Edmonton between 1987 and 1993 were used to test the General Theory of Crime's core assumptions. Specifically, this research assessed the relationship between self-control (measured using behavioral indicators) and treatment completion as well as the relationship between self-control and criminal recidivism. Associations between self-control, criminal, and analogous outcomes were evaluated by offender sub-types (i.e., rapists, pedophiles, and incest offenders). Rapists have lower self-control relative to incest offender, who in turn, have lower self-control relative to pedophiles. There were no differences in treatment completion by type of sex offender. Findings for recidivism indicated that rapists were most likely to reoffend following treatment. Moreover, rapists showed versatility in offending (i.e. they were just as likely to commit a subsequent sex offence as they were to commit a non-sexual offence (e.g., a burglary, or an assault). When incest offenders committed subsequent crimes, the offences involved alcohol or drugs. However, when pedophiles reoffended, they were highly likely to commit a subsequent sex offence, suggesting predictability in terms of the criminal outcome. Implications of these findings for the General Theory of Crime are discussed, along with suggestions for future research.

Acknowledgements

This page is dedicated to all of the individuals and institutions whose support has contributed to the completion of this project. I am also indebted to a number of people who have played an integral role in my educational development over the years and I am especially grateful to those who continue to inspire me to learn. Financial support for this project was provided by the Social Sciences and Humanities Research Council of Canada through a doctoral fellowship and by the University of Alberta in the form of a Walter H. Johns Graduate Fellowship.

Alberta Hospital Edmonton needs to be commended for its generosity and support. Assistance and advice was provided by various individuals who make up the administration, the Phoenix Program, the Records Department, and the Research Centre. Special consideration is extended to Denise Milne (Forensic Program Manager) and Leslie Kirkby (Phoenix Program Manager) who initiated this research project, and went out of their way to provide assistance at every opportunity. I am also indebted to Dr. Lea Studer (Psychiatrist, Phoenix Program) who oversaw this project. In addition, special thanks go to Steve Clelland (Forensic Therapist, Phoenix Program) for his continual assistance and most importantly, his friendship. Cathy Olechow (Records Department) also deserves mention for her assistance in helping me locate files and for keeping me company through hours of eyestrain. I also appreciate the efforts of Joan Ward (Coordinator, Research Review Committee) who helped me understand the "paper process" and indirectly, helped me keep my sanity by administering humour and friendship in large doses. Finally, I am especially grateful to Dr. John Reddon (Statistician, Research Center), who has served as a research mentor, providing me with valuable support and guidance throughout the data collection and analysis phase of this project.

I would also like to extend my appreciation to the University of Alberta, for contributing to my educational development for a period of eleven years, in which I obtained a Bachelor of Arts with honors in sociology, a Master of Arts in sociology, and a Doctor of Philosophy degree. David Pierce, Judy Cameron, and Frank Epling all played a significant role; helping to cultivate my desire to learn, and providing me with guidance throughout this process.

Special thanks goes to Dr. Robert Silverman, who got me started in criminology and whose support convinced me I should pursue this field of study. Members of my dissertation committee also deserve recognition including: Dr. James Creechan (my supervisor), Dr. Leslie Kennedy, Dr. Helen Boritch, Dr. Judy Cameron, Dr. Joane Martel, and Dr. Rick Linden (my external advisor). I am especially grateful to Dr. Creechan for taking me on so late in the project and for providing prompt, professional advice and criticism needed while writing this dissertation.

Peer support plays in integral role in the success of all educational pursuits, and this work is no exception. I thank Cora Voyageur for her friendship and her loyalty through trials and tribulations which both challenged our minds and threatened our sanity. Cora and I both work 20 hour days, take frustrations out on significant others, enjoy laughs, survive tears, believe a lunch out is heaven itself, and worry that a weekend off would give our systems such a shock, that heart failure might result. Cora and I have relied on our friendship to guide us through the successes and tragedies in our lives that have built character and maintained our stubborn determination to learn.

Russ Powell also deserves special recognition as my "neighboring" colleague and dear friend. Russ has listened to me complain about everything from politics to personal crises and still likes me. I admire Russ's strength of character, enjoy his wit, value his friendship and hope to model his sincerity and his dedication to teaching.

Michelle Pollard's genuine sweetness, sisterly love and friendship has given me a new outlook on life and an adoptive family that I cherish as my own.

Finally, I extend my appreciation to the individuals who are closest to me, my parents (Jackie and Larry Symbaluk), my aunt and confidant, Lodema Strong, my sister and brother-in-law (Sharee and Darren Kuny), and my nearest and dearest friend, Cynthia Hall. Thank you for standing by me while my moods have swung from jubilant to dejected during what can only be considered a very rewarding, but trying process. Mom and Dad, I am grateful that you taught me to highly value education and that you provided me with love and support throughout my schooling years. I would not be where I am today without you.

Table of Contents

CHAPTER I: INTRODUCTION 1

Testing Gottfredson and Hirschi's (1990) General Theory of Crime 1

Organization of the Dissertation 1

Sex Offenders and Social Consequences 2

Sex Offenders 2

Rapists and Child Molesters 4

Rapists 4

Defining Rape 5

Child Molesters 7

Pedophiles 7

Incest Offenders 8

The Rapist-Child Molester Dichotomy 9

Personality Approaches to Sex Offending 12

A Critique of Personality Approaches 14

Sociological Explanations of Sex Offending 15

Summary and Conclusions 18

CHAPTER II: THEORETICAL FRAMEWORK 21

A General Theory of Crime 21

Historical Roots of the General Theory of Crime 22

Assumptions Regarding the Nature of Crime 23

Low Self-Control as the Determinant of Criminality 24

Self-Control as a Stable Construct 25

Versatility in the Commission of Crimes 26

Sex Offending in the General Theory of Crime 28

Criminal Conditions and the Role of Opportunity 30

Empirical Tests of the General Theory of Crime 31

Self-Control Warrants Further Investigation 37

Testing a General Theory of Sex Offending 39

Stability: Self-Control as a Stable Construct 39

Versatility: Self-Control as a Versatile Construct 41

Summary of Hypotheses to be Tested 42

CHAPTER III: METHODOLOGY AND MEASUREMENT 43

The Present Study 43

Design 43

Sample 43

Phoenix Program at Alberta Hospital Edmonton 45

Discharge From the Phoenix Program 48

Ethical Considerations 50

Data Collection 50

Sex Offender Types 51

Independent Measures 52

Sex Offender Characteristics 52

Marital Status 52

Ethnicity 56

Offender Characteristics 56

Indicators of Self Control 59

Zero-order Correlations for Self-Control 65

Dependent Measures 66

Treatment Completion 66

Recidivism 67

Summary of Sample Composition and Measures 68

CHAPTER IV: SELF-CONTROL: A DESCRIPTIVE ANALYSIS 70

- Indicators of Self-Control 70
- Descriptive Statistics 70
- Summary and Conclusions 93

CHAPTER V: LOW SELF-CONTROL AS A STABLE CONSTRUCT 95

- The Stability Postulate 97
  - Time 1 and Time 2 Measures 101
    - Theoretical Implications 102
  - Time 1 and Time 3 Measures 105
    - Theoretical Implications 105
  - Time 1 and Time 4 Measures 108
    - Theoretical Implications 108
  - Time 2 and Time 3 Measures 112
    - Theoretical Implications 112
  - Time 2 and Time 4 Measures 114
    - Theoretical Implications 114
  - Time 3 and Time 4 Measures 117
    - Theoretical Implications 117
- Summing up Stability in Self-Control Over Time 120
  - Low Self-Control in Childhood and Adulthood 120
  - Low Self-Control and Recidivism 123
  - Low Self-Control and Treatment Completion 127
  - Treatment Completion and Recidivism 128

Conceptual Equivalence 128
    Self-Control Measures 129
    Offender Characteristics 131
Multiple Regression Analysis 131
Recidivism Results 133
    Theoretical Implications 134
Summary and Conclusions 137

CHAPTER VI: SELF-CONTROL-A VERSATILE CONSTRUCT 141
The Versatility Postulate 141
Summary and Conclusions 148
    Theoretical Implications 149

CHAPTER VII: DISCUSSION AND CONCLUSION 153
Purpose 153
Measurement Issues 153
Conceptual Equivalence 156
The Stability Postulate 157
The Verstatility Postulate 164
Limitation of the Present Study and Sugestions for Future Research 167

FOOTNOTES 172

REFERENCES 174

APPENDIX A 183

Phoenix Program Data Collection Instrument 184

Codebook: Testing a General Theory of Sex Offending 193

Coding Sheet 195

APPENDIX B 199

Table 1: Correlations (Offender Characteristics) 200

Table 2: Correlations (Offender Characteristics and Self-Control) 201

Table 3: Correlations (Dependent Measures) 202

Table 4: Correlations (Self-Control and Dependent Measures) 203

Table 5: Correlations (Characteristics/ and Dependent Measures) 204

APPENDIX C 205

Curriculum Vitae 206

List of Tables

Table	Description	Page
Table 1.	Phoenix Program Discharge Years	49
Table 2.	Marital Status by Offender Type	53
Table 3.	Ethnicity by Offender Type	55
Table 4.	Descriptive Measures by Offender Type	57
Table 5.	Zero-order Correlations (Self-Control)	64
Table 6:	School Trouble by Offender Type	71
Table 7.	Job Instability by Offender Type	73
Table 8.	Soft Drug Use by Offender Type	75
Table 9.	Hard Drug Use by Offender Type	77
Table 10.	Alcohol Use by Offender Type	79
Table 11.	Other Self-Control Measures by Offender Type	82
Table 12.	Drug and Alcohol Screening Test Scores by Offender Type	90
Table 13.	Time 1 and Time 2 Measures	100
Table 14.	Time 1 and Time 3 Measures	104
Table 15.	Time 1 and Time 4 Measures	107
Table 16.	Time 2 and Time 3 Measures	111
Table 17.	Time 2 and Time 4 Measures	113
Table 18.	Time 3 and Time 4 Measures	116
Table 19.	Offender Characteristics and Dependent Measures	130
Table 20.	Regression of Recidivism on Self-Control	132
Table 21.	Offender Type by Treatment Completion	143
Table 22.	Recidivism by Offender Type	146

List of Figures

Figure	Description	Page
Figure 1.	School Expulsion by Sex Offender Type	84
Figure 2.	Illegal Drug Use by Sex Offender Type	86
Figure 3.	Soft Drug Use by Sex Offender Type	88
Figure 4.	MAST Scores by Sex Offender Type	92
Figure 5.	A Conceptual Model of General Theory	96
Figure 6.	A Theoretical Model of Stability in Self-Control	98
Figure 7.	Time 1 and Time 2 Measures	122
Figure 8.	Time 1 and Time 4 Measures	124
Figure 9.	Time 2 and Time 4 Measures	126

CHAPTER I: INTRODUCTION

Testing Gottfredson and Hirschi's (1990) General Theory of Crime

The purpose of the present study is to assess the applicability and predictive power of Michael Gottfredson and Travis Hirschi's (1990) *General Theory of Crime* for explaining sex offending. The General Theory of Crime rests on the assumption that individual differences in propensities toward crime vary with degree of self-control. Specifically, individuals with low self-control are more likely to commit criminal, delinquent, and functionally equivalent acts than people with higher levels of self-control. This study examines self-control in a clinical sample of sex offenders at different stages in their life history to determine whether self-control is stable over time. In addition, the present study investigates versatility in offending (i.e., the variety of acts committed). Further, this study examines the relationship between self-control and treatment completion as well as the relationship between self-control and criminal recidivism following treatment. Finally, this investigation evaluates the associations between self-control and criminal and analogous outcomes across rapists, incest offenders, and pedophiles.

Organization of the Dissertation

Chapter 1 introduces sex offending, highlights current controversies surrounding the division of sex offenders into sub-types, and provides a summary of the strengths and weaknesses of popular theories. Chapter 2 provides a framework for examining sex offending using Gottfredson and Hirschi's (1990) General Theory of Crime. The methodology and measures used to carry out this study are described in Chapter 3. Chapter 4 presents descriptive statistics for indicators of self-control. The General Theory of Crime's stability and versatility postulates are examined in Chapters 5 and 6. The final chapter (Chapter 7) summarizes and discusses main findings, addresses the limitations of the present study and concludes with suggestions for future research.

Sex Offending and Social Consequences

Sex Offenders

Few criminals elicit more public fear, outrage and disgust than sex offenders, especially when these individuals commit crimes against children. The vast majority of sex offenders are men, and as a result, the literature on sex offenders focuses almost exclusively on males. For instance, a literature search of *Medline, Psychological Abstracts, Sociology Abstracts, and Child Abuse and Neglect Abstracts* conducted in 1988 on female child molesters yielded only two references (see Erickson, Walbek, & Seely, 1988, for a discussion of the literature on female sex offenders). Similarly, a 1995 review of the Correctional Service of Canada offender management system revealed only ten female sex offenders. This literature suggests that 99.7% of all known sex offenders are male (Motiuk & Belcourt, 1996). In addition, although adolescents commit a substantial portion of sex crimes (e.g., 20% of the forcible rapes in the United States according to National Crime Survey data for 1979), the majority of sex offenders are adults. The average age upon admission to a Canadian prison for a sex offence is 38 years, with the oldest sex offender in custody being 83 years and the youngest 15 years (Motiuk & Belcourt, 1996).

There are almost 4,900 *known* sex offenders currently under the jurisdiction of the Correctional Service of Canada (Research and Statistics Branch, Correctional Service of Canada, 1995). This statistic represents close to a 100 percent increase in the number of sex offenders in just four years (i.e., there were only 2,469 sex offenders as of July 31, 1991) (Research and Statistics Branch, Correctional Service of Canada, 1991). The increase is also reflected in the proportion of incarcerated sex offenders. Sex offenders now constitute more than 34 percent of all *incarcerated* offenders under federal jurisdiction (N=14,223) as compared to only 14% of this population in 1991 (N=11,337) (Research and Statistics Branch, Correctional Service of Canada, 1991; Research and Statistics Branch, Correctional Service of Canada, 1995).

The increase in the number of incarcerated sex offenders can be interpreted in several ways. For example, due to increased public awareness of sex offending (i.e., media attention) and a general public intolerance for these crimes, social pressure may be placed on criminal justice officials (e.g., police officers, prosecutors, judges) to direct resources to punishing and preventing sex offending. In addition, changes to laws dealing with sex offences (i.e., inclusion criteria) have produced broader definitions of what constitutes a sex crime, and have indirectly encouraged the reporting of sex offences by rendering criminal proceedings less traumatic for victims (i.e., under most circumstances, the law now protects victims from having to reveal sexual histories with anyone other than the accused). These considerations may contribute to the incarcerated sex offender population irrespective of the actual number of sex crimes committed.

The average federal prison sentence for a sex offender is four and a half years in length but only one in four sex offenders *ever* receives a federal sentence (i.e., two years or more) (Research and Statistics Branch, Correctional Service of Canada, 1991). Thus, there are even *more* known sex offenders than reflected in the statistics for federal institutions. In addition, many sex offenders qualify for early release and are discharged into the community before their sentence has expired. As of December 31, 1995, more than 1,100 sex offenders were under community supervision on conditional release from prison (Motiuk and Belcourt, 1996). Five out of every 1,000 federal offenders (including known and unknown sex offenders) commit a sexual assault while on *conditional* release from an institution. This rate is second only to robbery recidivism among major security incidents involving the community (Communications Branch, Correctional Service Canada, 1995).

Furthermore, of those who serve a full-term in prison, 13% of sex offenders commit a subsequent sexual offence within five years of being discharged while 36% perpetrate some other form of criminal offence[1] (Hanson & Bussiere, 1996). Considering the incalculable harm to victims and their families, or the fact that it costs $200,000 (on average) to re-investigate, prosecute and incarcerate a repeat offender (Marshall & Barrett, 1990), the negative consequences of recidivism for society are apparent.

Not surprisingly, incidents involving sex offenders are highly publicized, capturing the attention of the public and resulting in demands for increased sentencing, more preventive measures, mandatory treatment for known sex offenders, and explanations for why sex offending occurs in the first place. Government officials, researchers and university scholars have responded by investigating multiple facets of this social problem. Recent policy recommendations include the development of a "national sex offender registry" and a "national child abuse registry." Both registries are information systems designed to identify persons at risk for sex offending, to assist in the protection of potential victims, and to further research on sex offending (Federal Adhoc Interdepartmental Working Group on Information Systems on Child Sex Offenders, Justice Canada, and the Ministry of the Solicitor General, 1994).

Rapists and Child Molesters

Rapists

Although a person of any age may be sexually assaulted, the term "rapist" is typically used in clinical and academic literature to identify a person who is known to have committed a sexual assault against a non-consenting victim who is at least 14 years of age (Quinsey, 1986). The rationale is that victims under the age of 14 legally constitute "children" and, people who sexually assault children are child molesters, not rapists. The cut-off age for what constitutes an adult victim is arbitrary and can be somewhat misleading with most researchers using 14 years of age and older, while others opt for 16 years of age or older, and still others use legal definitions for adult-youth separations (i.e., 18, 19 or 21 years indicating adult status).

Defining Rape

Prior to 1983, unwanted sexual contact with adult females was termed "rape" in Canada's Criminal Code. Thus, a "rapist" referred to a man who was charged with rape for committing:

> sexual intercourse with a female person who is not his wife, a) without her consent, or b) with her consent if the consent (i) is extorted by threats or fear of bodily harm, (ii) is obtained by personating her husband, or (iii) is obtained by false and fraudulent representations as to the nature and quality of the act (s. 143).

As of January 4, 1983, the term rape was replaced with "sexual assault" and Canada's criminal code now recognizes that anyone (not just a man other than the victim's husband) can commit an act of sexual assault. Further, sexual intercourse is no longer a prerequisite for the application of the label "sexual assault." Any unwanted sexual contact including an unwanted kiss or a threat of sexual assault even if unaccompanied by assault, may constitute an act of sexual assault (see section 265(1) for a review of the meaning of sexual assault).

In Canada, charges are indicated in levels, determined primarily by the seriousness of the sexual offence (e.g., the amount of harm inflicted on the victim(s)). "Sexual assault" (section 271) is the lowest level and is punishable as a summary conviction or indictable offence not exceeding 10 years. This offence can include a wide range of behaviors and refers to virtually all forms of unwanted sexual contact from less serious violations such as an unwanted kiss to touching of the genitals through to forcible intercourse. The key to ascertaining whether a sexual assault has occurred concerns the issue of consent. A sexual assault refers to sexual situations in which the alleged victim did *not* provide consent (or agreement to engage in the sexual act).

"No consent" is outlined as follows in the Criminal Code:

> (2)No consent is obtained for the purposes of sections 271, 272, 273, where
> (a) the agreement is expressed by the words or conduct of a person other than the complainant;
> (b) the complainant is incapable of consenting to the activity;
> (c) the accused induces the complainant to engage in the activity by abusing a position of trust, power or authority;
> (d) the complainant expresses, by words or conduct, a lack of agreement to engage in the activity; or
> (e) the complainant, having consented to engage in a sexual activity, expressed by words or by conduct, a lack of agreement to continue to engage in the activity (s. 273.1).

Other factors are also taken into consideration to determine the penalty for commission of a sexual assault including the nature of the situation in which it occurred, the part of the body touched, and the nature of the sexual contact itself (Scott & Weir-Brown, 1996).

The second offence level is "sexual assault with a weapon" resulting in harm to a victim. This offence includes threats of weapon use or threats of bodily harm as well as threats to third parties (see section 272, Criminal Code of Canada). An example of a threat to a third party would be an assailant claiming he will harm a woman's children if she does not comply with sexual demands. A person found guilty of sexual assault with a weapon is liable to be imprisoned for up to 14 years.

The most serious sexual assault is "aggravated sexual assault" which carries a maximum penalty of imprisonment for life. In this offence, the assailant wounds or disfigures the victim (see section 273, Criminal Code of Canada).

There were close to 27,000 sexual assaults in Canada in 1990, and this figure represents approximately 10 percent of all reported violent crimes (Allen, 1991). From 1969 to 1981 the number of reported sexual assaults in Canada increased 151 percent (Committee on Sexual Offences Against Children and Youth, 1984). The increase can be attributed, in part, to factors other than the actual number of sexual offences (e.g., a greater propensity for victims to report sexual assaults as well as broader legal definitions of what constitutes an act of sexual assault). However, crime statistics on the prevalence of sexual offences in Canada are *conservative* estimates of the actual number of sex crimes committed. Convicted sex offenders often admit to more sex crimes than they have been charged with (Abel, Becker, Mittelman, Cunningham-Rathner, Rouleau, & Murphy, 1987).

Child Molesters

Pedophiles

In contrast to rapists who target adult victims, some offenders are labelled as "child molesters" to depict their selection of children as victims. Child molesters are often sub-divided into "pedophiles" and "incest" offenders. Pedophilia is defined as a "perversion in which an adult has a sexual interest in children" (Glasser, 1990: 739). More specifically, pedophilia involves "recurrent, intense sexual urges and sexually arousing fantasies of at least six months duration involving sexual activity with a prepubescent child (generally 13 years or younger)" (Conte, 1990: 20). Many clinical and research definitions of pedophilia use 13 years of age as a cut-off for victims in order to maintain a distinction between adults with a sexual attraction towards children who have not reached puberty (pre-pubescent) and those who are in the puberty stage.

In general, definitions of child molesters as a whole are vague and as a result, much disagreement exists as to what age should be considered a cut-off point to represent a "child" rather than an "adult" victim (Gebhard, Gagnon, Pomeroy, & Christenson, 1965). Clearly some 17 year olds may appear to be much older than their biological age and some 19 years olds might pass for 15 or 16 years olds. Similarly, a cut-off point of 14 may not distinguish children with breast development and genital hair growth from those who do not have this development.

In addition to defining pedophilia on the basis of victim age, pedophiles are distinguished from other sex offenders according to the social relationship between offenders and victims. Children targeted by a pedophile are from outside the perpetrator's family (i.e., the child is not biologically related to the offender, nor is the child related in any way through adoption, common-law, or step-parent roles).

Incest Offenders

In contrast, incest offenders engage in sexual relations with their own children (Committee on Sexual Offences Against Children and Youth, 1984; Research and Statistics Branch, Correctional Service Canada, 1991). Most identifiable incest cases involve fathers who have sexual relations with their step-daughters, but incest crimes may incorporate all forms of parent-child social relations including biological, adoptive, foster, step-parent and common-law father-daughter roles (Groth, 1979).

In the Criminal Code of Canada, incest is listed as an offence (section 155) which directly pertains to sexual relations among biological family members. Incestuous relations among non-biological members are more likely to fall under the classification of guardian procuring activity by a child (section 170), householder permitting sexual activity by or in the presence of a child (section 171), or corrupting children (section 172).

The following example describes an incestuous relationship between a father and his biological daughter taken from a case example found in Cooper and Cromier's (1990) chapter on incest in *Principles and Practice of Forensic Psychiatry*:

> Mr. R. the 38-year-old father of eight children (six girls and two boys) became very depressed when his wife died after a brief illness. The couple had been happily married with no major family problems. After the mother's death, the oldest daughter, aged 15, began to take care not only of the household but her younger siblings as well. Still in a state of mourning, the father began to make sexual overtures towards her which eventually culminated in incest. After 6 months, the girl disclosed the situation to a maternal aunt who called the police. The father was very distraught and deeply regretted his actions. After serving 2 years in the penitentiary, the father returned to his family where he resumed his role as head of the household and father. There was no recurrence of incest (p. 756).

All sex offenders (i.e., rapists, pedophiles, incest offenders) have a number of common predictive qualities including low socioeconomic status, poor social skills, a high rate of high school failure and dropout, and histories of unstable employment in unskilled occupations (Bard, Carter, Cerce, Knight, Rosenberg, & Schneider, 1987). Taken together, these features may represent a relatively stable personality and/or a behavioral disorder which leads to a less conventional, criminal lifestyle in sex offenders. Classification of sex offenders using a bi-variate model (i.e., the rapist-child molester dichotomy) brings out even more homogeneity in the offender sample, which draws attention to relations among predictor and outcome variables that may otherwise be weakened by intra-group differences (Knight, Rosenberg, & Schneider, 1985).

The Rapist-Child Molester Dichotomy

Globally, the rapist-child molester dichotomy is the most frequently used classification scheme for sex offenders. The separation of sex offenders into rapists and child molesters reveals a number of important distinctions. For example, rapists tend to be significantly younger than child molesters who tend to come from a wide range of age groups (Knight, Rosenberg, & Schneider, 1985). In addition, rapists have a greater number of heterosexual experiences and are more likely to be married or living in a common-law relationship, relative to child molesters (Bard, Carter, Cerce, Knight, Rosenberg, & Schneider, 1987). Finally, rapists tend to behave in overly assertive ways compared to child molesters who more closely resemble normative levels on measures of social competence (Bard, Carter, Cerce, Knight, Rosenberg, & Schneider, 1987). All of these observations may be indicative of fundamental differences between child molesters and rapists.

The measurable differences between offender types may be further implicated by opportunity structures. In this case, rapists may commit crimes against adult females because they have many social relationships with members of the opposite sex which constitute numerous opportunities to offend. In contrast, child molesters may commit crimes against other people's children because they are less able to maintain social relationships with adults, and as a result, spend more time with children. The age difference between child molesters and rapists may be attributed to the fact that incest offenders typically do not encounter opportunities to commit incest until after they have been in a social relationship which produced children. Finally, rapists may behave more aggressively than child molesters because this behavior may be necessary to procure submission from an adult, while very little force or no physical force may be needed to overpower a young victim.

Bard et al. (1987) examined the rapist-child molester dichotomy in more detail using a sample of 187 'sexually dangerous' rapists and child molesters from a Massachusetts Treatment Centre. The classification as 'sexually dangerous' denotes the use of violence and/or repetition in sexual offending. This designation minimizes the likelihood that individuals were misclassified as sex offenders and renders this study a strong test of the rapist-child molester typology. Men were considered rapists if their victims were 16 years of age or older and classified as child molesters if victims were under 16. Nine sex offenders who did not discriminate victims on the basis of age (i.e., they committed offences against both adult and child victims) were omitted from the analysis. Secondary data analyses were conducted on sex offenders' clinical files containing information from a variety of sources (e.g., school reports, parole summaries, case worker files, etc.).

Measures for family history indicated that child molesters are more likely to come from intact families, are more likely to have been sexually abused, and show a greater incidence of psychiatric history in siblings compared to rapists. Findings for child/juvenile factors indicated that rapists have more problems in school (e.g., behavior, attendance) than child molesters (Bard, Carter, Cerce, Knight, Rosenberg, & Schneider, 1987).

Differences between rapists and child molesters are most apparent during adulthood where rapists are likely to have unstable job histories, and in cases where job histories are more stable, rapists are likely to hold less skilled positions relative to child molesters. Moreover, rapists are more likely to use alcohol and much more likely to use drugs compared to child molesters. Rapists, however, have higher IQs (as indicated by full-scale, verbal, and performance indexes using Wechsler Intelligence Scales), and are more competent socially (i.e., higher level peer interactions, higher level heterosexual competence) than child molesters (Bard, Carter, Cerce, Knight, Rosenberg, & Schneider, 1987).

Comparative findings for criminal behaviors indicated few differences in the frequency of criminal activity (i.e., There were no differences between rapists and child molesters for nonsexual victim-involved crimes or nuisance sexual offences). However, rapists were more likely to commit nonsexual victimless offences (e.g., breaking an entering, speeding), especially as juveniles. Moreover, other aspects of criminality differentiated rapists from child molesters. In particular, impulsivity, aggression, and sexual adequacy in criminal offences clearly differentiated between rapists and child molesters. Rapists are more impulsive (i.e., they are opportunistic and seldom plan assaults) and more aggressive (as measured by an unsocialized aggression scale) than child molesters. Finally, child molesters are considered more likely to behave in ways which suggest "compensation for sexual inadequacies" within their offences.

In general, results of Bard et. al's (1987) study suggest that rapists tend to get into more trouble than child molesters (e.g., rapists are more impulsive, more aggressive, more likely to use drugs and alcohol, and are less likely to have stable jobs, etc.). To date, the rapist-child molester dichotomy has remained a 'speculative model.' Researchers have not attempted to test the validity of this dichotomous model or replicate these results using other sex offender populations.

An understanding of the sub-classifications within sex offender populations may be essential for the development of theory, research, and a more effective decision making process in correctional institutions and treatment programs.

Personality Approaches to Sex Offending

Sex offending is often studied within a psychological framework that emphasizes the role of offender pathology in the form of personality traits or deficiencies that predispose individuals towards criminality. For example, sex offenders who molest children are often considered to be emotionally or sexually immature. As a result, these individuals find it difficult to make and maintain relationships with age appropriate peers, and turn instead, to children (Groth & Birnbaum, 1978; Groth, Hobson, & Gary, 1986). Child molesters, then, differ from the general population on the basis of a primary sexual orientation towards children.

Clinical research on the psychology of sex offenders suggests two profiles based on primary sexual orientation: "Fixated" and "regressed" child molesters (Groth, 1979). In the case of fixated child molesters, it is believed that sex offending is largely the result of problems in the normal development of sexuality which lead to stable deviant sexual arousal patterns while regressed offenders molest children as a precarious deviant solution to a temporary non-sexual crisis (Salter, 1988).

Fixated child molesters. In this perspective, a fixated child molester is someone who has a long-standing and permanent sexual attraction to young persons (Groth & Birnbaum, 1978). Fixated child molesters develop pedophilic tendencies early on (i.e., prior to adulthood) and are likely to have lengthy histories with multiple offences (Mayer, 1985). Fixated offenders often plan offences in advance and tend to select victims with whom they closely identify with and even behave in a parental fashion towards (Groth, Hobson & Gary, 1986). Clinical observations suggest that fixated child molesters commit sex offences as maladaptive responses to unresolved developmental issues (Groth, Hobson & Gary, 1986). Likelihood of recidivism is high in the fixated pedophile and chances for successful treatment are low (Mayer, 1985).

The following excerpt describes the case history of a well-known fixated pedophile:

> A recent headline in the Arizona Republic reads, "'Cured' Molester Admits 57 New Counts." The story recounted details of the sexual activities of a 42-year old pedophile who had appeared on the CBS-TV program "60 Minutes" in 1978 to tell how he had been cured of child molesting. During his 1983 trial, he was charged with 57 new counts of lewd and lascivious behavior with over a dozen boys. He faced 133 years to life in prison for the felony charges of child molesting including oral copulation and sodomy between 1981-1983. This man's record of sexual offenses dated back to 1964 and he had been sent to Atascadero State Hospital in California several times for psychiatric help. His victims, ages eight to fourteen, were seduced with toys, games and money and then were taken on weekend trips for sexual activities (Mayer, 1985: 23).

Regressed child molesters. In contrast, a regressed offender is described as someone who has developed a sexual preference for adult peers and is attracted to agemates, but is *temporarily* interested in children (Groth & Birnbaum, 1978; Groth, Hobson & Gary, 1986). Offences committed by regressed child molesters tend to be unplanned, alcohol-related, and are directed against female victims who are used as temporary replacements for sexual relations with adult partners (e.g., wife, girlfriend) (Groth, Hobson & Gary, 1986). It is believed that in committing sex offences, regressed offenders are reacting to transient, stressful life events (Groth, Hobson & Gary, 1986; Mayer, 1985). Due to the transient nature of the sexual attraction to children, the prognosis for successful treatment of regressed pedophiles is quite high (Mayer, 1985).

In the following passage, a regressed pedophile explains how he came to molest a group of boy scouts:

> I had never thought of molesting children. I was a deacon in my church, a Cub Scout leader, and a youth minister. I had been around children all my life with no intent to harm them. One day I came home from work and my wife said that there was something she wanted to talk to me about. She said, "Tony, you physically disgust me and I never want you to touch me again!" This really affected me as you can imagine. In the next two weeks, I was coming up for a big promotion and I knew that if I did not get it I would never be promoted before I retired. I'm 60 years old and this would have been my last shot. It came down to me and a young fellow at work who was only 30 years old. He got the job.
>
> I was crushed. That weekend I and the Cub Scout troop went out on a scouting trip. As usual there were two people to a pup tent, and there was a young 9-year-old sharing a tent with me. It started raining and thundering and the boy got scared. He asked if he could come over to my side of the tent and climb into my sleeping bag. Well, one thing led to another and before long I was fondling him. This led to other young boys, which went on for a year (Holmes, 1991: 37-38).

To date, the proportion of child molesters who fall into the categories of regressed or fixated is undetermined. That is, no studies have examined the predictive validity of the fixated/regressed dichotomy. Moreover, the notion that regressed offenders are highly treatable while fixated offenders are not has never been empirically tested.

A Critique of Personality Approaches

All personality approaches rest on the assumption that individuals possess relatively stable dispositional which predisposes them to act in consistent and thus predictable ways across social situations. Dispositional theorists, then, claim that *internal causes* are the primary determinants for behavior and downplay the importance of situational forces. Given this premise, the goal is to identify personality traits which underlie behavioral responses and demonstrate cross-situational consistency in behavior (Ross & Nisbett, 1991).

In an extensive review of early dispositional research, Mischel (1968) came to the conclusion that personality research shows little cross-situational consistency between measures of personality traits and corresponding real-life behaviors. Early research, for example, finds correlations of only .14 between any two behaviors designed to measure extroversion in adolescent boys (Newcomb, 1929).

Similarly, the average correlation between any two honesty behaviors in elementary and secondary school children who were given the opportunity to lie, steal or cheat is only .23 (Hartshorne and May, 1928). Mischel (1968) argued that such negligible correlations between behavioral measures for a single personality trait suggest that human behavior may be less predictable than personality theorists would like to presume.

Sociological Explanations of Sex Offending

Sociological theories constructed to account for the occurrence of sex offending in North American society mainly consist of explanations for aggressive male tendencies. For example, some theories point to the role of society in promoting male aggression (feminist approaches). Others try to explain how aggression is learned by males (social learning theory), and how male attributes predispose them to commit aggressive behaviors within a wider social context (a biosocial theory of rape). A brief review of these theories is provided below.

Customarily, feminist theories provide a macro-level analysis of the structural factors which contribute to the prevalence of sexual aggression directed against females in society (Boritch, 1997; Clark & Lewis, 1977; Comack, 1996). Radical feminist theories argue that sexual assault originates from differences in gendered socialization practices which promote male dominance over females in society (Boritch, 1997; Brookover-Bourque, 1989; Hinch, 1996). Socialist feminists also point to patriarchy as a cause of sexual violence, but place equal emphasis on the role of capitalism in fostering power differences between males and females (Messerschmidt, 1986). Taken together, feminist views typically point to domination as the primary motive for rape, as is exemplified by Brownmiller's (1975) contention that "rape is not a crime of lust. . . but is a deliberate, hostile, violent act of degradation and possession on part of a would-be-conqueror, designed to intimidate and inspire fear" (p. 3).

While domination may be the motive, the causes of rape are ultimately societal. From a feminist perspective, sexual assault is an integral part of North American culture which results from gender-role socialization practices which teach males to be sexually aggressive (Buchwald, Fletcher & Roth, 1993). Sexual aggression is learned through a number of sources which promote violence including competitive sports and repeated exposure to violence against women in pornographic films. Buchwald et al. (1993) further contend that sex role socialization ultimately leads to a "rape culture," a society that condones physical abuse against women.

Violence is not only condoned in North American culture, but it is also reinforced at times. From a social learning perspective, aggression is a learned response (Bandura, 1973). The single most widely applied assumption used in explaining child molestation is the contention that child molesters learned to behave in this way because they were themselves victims of sexual abuse.

In accordance with feminist explanations, social learning approaches emphasize the role of society in promoting deviant and criminal behaviors including sex offences (Akers, 1985). A social learning theory of rape rests on the notion that aggression is learned from social models (e.g., siblings, peers, parents, or teachers) as well as through various cultural mediums (e.g., pornographic magazines, movies, television shows, internet sources, etc.). The mass media is especially important in the acquisition of aggressive behavior in that it is a means of conveying aggressive techniques, and with repeated exposure, may even desensitize viewers to the negative aspects of violence (Bandura, 1978). Sex offending, then, is learned by watching others model sexually aggressive behaviors, by viewing situations in which sex and violence are paired with positive outcomes, and/or by becoming desensitized to the pain and suffering which results from sexual aggression.

Sociobiological theories of sex offending integrate assumptions of feminist and learning theories with biological notions. A biosocial theory of rape argues that the motivation to commit rape results from an inherited sex drive in conjunction with a learned drive to possess and control sexual partners (Ellis, 1991). In this case, domination and other coercive sexual states are means to ends, rather than ends in themselves, as suggested by feminist theories of rape.

A biosocial theory of rape argues that natural selection processes account for male tendencies to use force to acquire copulation as well as female dispositions towards resistance of forceful sexual tactics (Ellis, 1991). It is genetically advantageous for males to use aggression because force and domination can increase the chance that genes will be passed on to subsequent generations. Moreover, the total time investment on part of males can be as little as a few minutes, whereas females are obligated to an average of nine months of prenatal care and extensive nurturing following birth. Thus, females may resist copulation until potential partners show commitment towards nurturing offspring. Males, in contrast, can impregnate several females in a short period of time at very little personal cost. Natural selection, then, favors the use of sexual assault by males against females.

Although the drive to copulate is largely the result of biology, Ellis (1991) contends that behaviors surrounding sexual assault episodes are for the most part, learned through experience. For example, copulation tactics may be learned through exposure to violent or sexually aggressive scenes depicted in most forms of "hard-core" pornography.[2] When initial exposure to sexist attitudes and sexually aggressive behaviors is reinforced (and not punished), forced attempts at copulation which result in sexual gratification will become persisting behaviors (Ellis, 1991). The following section outlines key criticisms of these approaches.

Summary and Conclusions

Although sociological approaches contribute significantly to our understanding of the etiology of sex offending, none of the leading theories have received unequivocal empirical support. For example, although self-report and cross-cultural studies support the feminist contention that sexual violence against women is condoned in society, the assumption that domination provides a motivation for rape finds little or no support in empirical research (Quinsey, 1984).

This criticism is especially applicable to sexual violence within social relationships. "Acquaintance rape" and "date rape" are terms used to describe sex offences which take place in the context of an established social relationship (see Ward, Dziuba-Leatherman, Stapleton, & Yodanis [1994)] for an annotated bibliography on acquaintance and date rape). Date rapists frequently engage in behavioral tactics designed to obtain sexual consent from their partners (e.g., pledging love to their partners, trying to get a date intoxicated, or threatening to break off the relationship) (Petty & Dawson, 1989; Rapaport & Burkhart, 1984). The literature suggests that sexual intercourse, rather than dominance, may be the *primary* motivation in date rape cases.

Critics of learning approaches point out that many people have been repeatedly exposed to depictions of rape on television (e.g., "Slasher" movies), yet the majority *never* commit a sex offence. In defense of social learning, Bandura (1978) claims that the acquisition of a response does not guarantee that the behavior will be exhibited. Often, the behavior is only repeated if followed by positive consequences. For example, in early study on imitative behaviors after exposure to aggressive models, children who saw the modeled aggression rewarded (or with no negative consequence) performed more aggressive behaviors than children who viewed the social model being punished for aggression (Bandura, 1965).

Thus, behaviors which are rewarded tend to be repeated while those which are punished or are not rewarded tend to be abandoned. Generalizing to depictions of sexual assault shown in the mass media then, viewers who see an assailant face negative consequences for a sexual assault (e.g., receive physical harm, get arrested by police, etc.) should be unlikely to commit rape when afforded the opportunity.

If acquired aggressive behaviors are maintained through contingencies of reinforcement, then early learning histories and conditions which sustain aggression are central to a social learning explanation of rape. Yet, social learning theorists cannot specify instances in which deviant learning took place in an offender's history, and are rarely able to identify with certainty the contingencies *currently* operating on that individual. Even if the rewards of crime commission are obvious (e.g., sexual gratification) and are used to justify the immediacy of an act (e.g., sexual assault rather than consensual sex incurred through the gradual development of a social relationship), a social learning perspective cannot explain why negative consequences (i.e., being denied access to the victim, losing a job or an important social relationship, spending time in prison, etc.) are ineffective in preventing subsequent sex offences.

Similarly, child molestation theories that rely on a 'cycle of abuse' hypothesis are faced with discrepancies afforded by the demographics in offending. The argument is that most sex offenders commit sex offences because they learned that sex offending was an appropriate means to obtain sexual gratification (or some other positive consequence) despite their negative experiences as victims. However, statistics indicate that victims of sexual abuse tend to be females while the vast majority of sex offenders are males. Even more puzzling from the point of view of a 'cycle of abuse' theory is the fact that the majority of victims fail to abuse their own children.

In addition to a lack of correspondence between theoretical predictions and the existing data on sex offending, the scope of phenomenon explained by some sex offending approaches is limited. That is, most theories which apply to rapists do not account for the actions of child molesters, and vice versa. For example, victim-precipitation arguments are clearly limited to cases in which a victim is at least of the age to form consent for sexual activities (i.e., it would be difficult to justify a claim that consensual sexual relations took place after the accused was provoked by a two-year old seductress).

Feminist theories which advocate that male domination promotes violence are limited to explanations of sexual assault against females by males. In this sense, feminist explanations are problematic for describing forms of child molestation (unless sexual violence is generalized to include all powerless groups including children as potential victims). Sociobiological explanations are even more restrictive, as they are precluded by an assumption that sexual assault is enacted to reproduce the offender's genes, and as such, only pertain to sex offences in which pregnancy may occur (i.e., they exclude all offences which do not involve sexual intercourse, they exclude all forms of abuse between males and all cases involving victims that are not of child-bearing ages). Finally, although social learning theories can incorporate virtually all types of sex offenders and offences, they have difficulty identifying the stimuli operating on individuals that delineate the conditions when and under which specific instances of sex offending are likely to take place.

Chapter 2 introduces Gottfredson and Hirschi's (1990) General Theory of Crime, which boldly purports to resolve the weaknesses in popular theories and provide a framework for explaining all forms of crime.

CHAPTER II: THEORETICAL FRAMEWORK

A General Theory of Crime

Many of the weaknesses in sociological explanations of sex offending may be attributed to the way in which sex crimes are conceptualized. That is, rape tends to be explained in terms of the benefits the criminal act produces (social learning, biosocial theory), or as the end result of structural or situational factors which are far removed from the individual sex offender (feminist).

Michael Gottfredson and Travis Hirschi (1990) devised a General Theory of Crime which defines crime as "acts of force or fraud undertaken in the pursuit of self-interest" (p. 15). Despite the immediate reward to an offender, the General Theory of Crime (1990) claims that criminal acts, for the most part, result in little or no long-term gain. Crimes produce little in the way of gain because people who commit them, do so because they *lack* self-control. Low self-control takes precedence over rational thought to produce criminal outcomes.

The General Theory of Crime rests on the assumption that crimes share qualities including "immediacy," "brevity of obligation," and "effortlessness" which provide a parsimonious framework for explaining all forms of crime including all types of sexual offences. Further, the theory is not restricted to explaining *only* acts legally defined as crimes (e.g., homicide, sexual assault, theft, etc.), because many *non-criminal* behaviors (e.g., smoking, drinking) entail the same qualities (i.e., immediate gratification). Finally, the General Theory of Crime diverges from popular theories of sex offending in its micro-level analysis, which focuses on the individual offender rather than structural factors.

The General Theory of Crime, then, offers a perspective that changes the way sex offending has been approached historically, by viewing sex offences as the same in nature--to all other crimes, and by viewing all crime commission as the end result of a lack of self-control in individual offenders. The following section outlines the key assumptions of the General Theory of Crime.

Historical Roots of the General Theory of Crime

Gottfredson and Hirschi's (1990) popular, albeit, controversial theory of crime has been the subject of considerable interest and theoretical debate. In agreement with the classical school of criminology, the General Theory of Crime assumes that crimes are undertaken in the pursuit of self-interest. However, Gottfredson and Hirschi dismiss the classical view that criminals are rational and calculating, contending that classical theorists give criminals too much intellectual credit. Moreover, in many cases, the potential costs of crime commission are not obvious because they are either indirect or too far removed from the event to be taken into consideration when a criminal opportunity presents itself. This conclusion stems from a re-examination of the nature of crimes that Gottfredson and Hirschi (1990) point out, are often "trivial and mundane affairs that result in little loss and less gain" (p. 16).

This statement suggests two things. First, criminals do not rationally calculate means for maximizing gains obtained through crime commission. Secondly, the relatively low rate of return for committing crimes coincides with the lack of effort which goes into the commission of such acts. Thus, it is not surprising that the majority of crimes require very little planning, preparation or skill to complete. Finally, most criminals do not repeatedly commit the same type of crime, suggesting that criminal acts possess similar qualities in their pleasure-producing outcomes.

Gottfredson and Hirschi (1990) claim one of the major shortcoming of positivist explanations is the inability to view crimes as similar in nature. Sexual assault, vandalism, smoking, and homicide all result in immediate, self-serving consequences. This similarity in outcome constitutes the "nature of crime," which Gottfredson and Hirschi (1990) argue is fundamental for understanding why people commit crimes and for seeing commonalties across criminal outcomes. That is, the nature of crime is taken as the starting point for explaining what kind of people become criminals. Further, the General Theory of Crime claims that the nature of crime precludes an ability to distinguish rapists from child molesters. The following sections outline these ideas in more detail.

Assumptions Regarding the Nature of Crime

Gottfredson and Hirschi's (1990) theory defines crimes as acts which are "undertaken in the pursuit of self-interest" (p. 15), *without* consideration for the long-term consequences of such actions. In this case, any act that constitutes a relatively easy means of obtaining an "immediate gratification of desires" which ultimately results in "few or meager long-term benefits" (p. 89) can be considered a crime. For example, killing a spouse during an argument can be viewed as an instant solution to a current problem (i.e., a desire to end the conflict). However, it is unlikely that the offender will benefit in the long run from this action (i.e., the offender will have to live without the spouse, will spend time in prison, etc.). Similarly, while selling drugs is likely to result in an immediate cash flow, over time, the odds increase that the dealer will be caught and prosecuted. Clearly, it is difficult to conceive of any crime in which the short term benefits outweigh the negative long-term implications of such actions.

The General Theory of Crime is unique in that its conceptualization of crime is not restricted to acts which are legally-defined as criminal. The General Theory of Crime views noncriminal acts (e.g., smoking, drinking) as conceptually equivalent to crimes as long as the behaviors produce immediate or short-term benefits (e.g., satisfying a craving for tobacco, release of stress) but costly long term consequences (e.g., lung cancer, cirrhosis of the liver). The assumption of conceptual equivalence of various criminal, deviant, and legitimate acts is important because it suggests that the propensity to commit crimes is versatile, an assumption described in more detail below.

Low Self-Control as the Determinant of Criminality

The General Theory of Crime attributes variations in criminality to a single underlying cause–a lack of self-control. The General theory of Crime claims that individual differences in *self-control* are responsible for all criminal and conceptually equivalent acts. Although Gottfredson and Hirschi never explicitly define self-control, self-control is generally taken to mean differences in the extent to which people are able to delay gratification in anticipation of long-term outcomes. Moreover, although the authors argue against viewing self-control as any kind of deterministic psychological trait (see Hirschi and Gottfredson, 1993), they suggest that people who lack self-control will be "impulsive, insensitive, physical (as opposed to mental), risk-taking, short-sighted, and nonverbal, and they will tend therefore to engage in criminal and analogous acts" (Gottfredson and Hirschi, 1990: 90).

Crime is not an automatic or necessary response to low self-control. All things being equal, people with low self-control are more likely to commit crimes than individuals with high self-control. However, a lack of criminal opportunities (e.g., close supervision of teenagers by their parents) and/or strong forms of social control (e.g., attachment to conventional others) can prevent the commission of any given crime by someone with low self-control. On the other hand, anything which impedes the development of self-control (e.g., cognitive deficits, inadequate socialization by parents) is also likely to attenuate the effectiveness of social bonds for preventing crimes (Gottfredson and Hirschi, 1990).

Self-Control as a Stable Construct

Gottfredson and Hirschi (1990) claim that differences in self-control are developed prior to the elementary school grades and these differences are relatively stable over the life span (p. 229). This postulate suggests several things. First, the early identification of individuals with low self-control can help distinguish potential offenders from non-offenders. In addition, degree of self-control can be established before (or after) criminal acts have occurred. However, stability of self-control over the life span also implies that rehabilitation in the form of treatment will be ineffective in changing criminal propensities. In this case, incapacitation in the form of indefinite jail sentences or capital punishment may be the only viable means for ridding society of crime.

Since low self-control arises in the *absence* of inhibiting forces in early childhood, the emphasis for crime prevention is on the early socialization of children. Gottfredson and Hirschi (1990) argue that the best way to prevent crime is to identify and consistently punish impulsive behavior in young children. Socialization is only important to the extent to which caregivers recognize manifestations of low self-control, feel a need to change these behaviors, possess the skills or resources to effectively punish manifestations of low self-control, and in fact, carry-out the necessary discipline (e.g., show disapproval for behaviors indicative of a lack of self-control). An inability to enact effective punishment for any of these reasons can prevent self-control from developing. Thus, ineffective socialization and/or a lack of supervision by parents or teachers at school are the key contributors to low self-control in children (Gottfredson and Hirschi, 1990).

Although Gottfredson and Hirschi are likely to deny this claim, low self-control may even have a genetic basis. According to the General Theory of Crime, low self-control is often manifest in risky or thrill-seeking behaviors. Risky and sensation-seeking tendencies are considered analogous to impulsivity in biological and genetic frameworks (Zuckerman, 1993). That is, individual differences in impulsivity and sensation-seeking are believed to be the result of common biological bases. Studies involving twins show evidence of heritability of the traits of impulsivity and sensation-seeking (Eysenck, 1983). In fact, researchers have recently noted that a genetic anomaly termed A_1 allele is over-represented in individuals with impulsive disorders (Blum, Cull, Braverman & Cummings, 1996).

Versatility in the Commission of Crimes

In addition to the stable nature of self-control, the General Theory of Crime includes the explicit assumption that self-control is a versatile construct. In this case, a person with low self-control is just as likely to commit a variety of criminal offences as he or she is to repeatedly commit one kind of crime. This assumption places the General Theory of Crime in contradiction to criminology theories which are limited to one particular crime (e.g., sexual assault) or one category of crimes (e.g., occupational). In accord with social learning theory, general theory contends that pleasurable consequences obtained through commission of an act determine the likelihood of repeating that behavior. Yet, unlike feminist and sociobiological approaches, the General Theory of Crime is not restricted to narrow definitions of sex offences and can incorporate virtually all forms of crime.

The versatility of self-control further implies that any number of acts, criminal or otherwise, can satisfy an impulsive individual. In this case, people with low self-control are expected to commit many different criminal offences as well as numerous non-criminal behaviors which result in pleasure or immediate gratification (Gottfredson and Hirschi, 1990). The notion of versatility can be used to account for the prevalence of criminal offences in offender histories, as well as major correlates of criminal acts including alcohol and drug use.

Delinquency research lends substantial support to the General Theory of Crime's assumption of versatility in the manifestations of low self-control. For example, Hirschi's (1969) analysis of school records, questionnaire responses and police records of 4077 junior and senior high students (i.e., Richmond Youth Project) indicated that youths who engaged in one form of delinquency (e.g., skipping school) were likely to be involved in many different deviant acts (e.g., smoking, drinking). Youths who smoke, drank alcohol and dated were as likely to commit various delinquent acts as those who disliked school and/or showed low academic competence. Similarly, youths who admitted to theft had also been apprehended by the police in the previous year for questioning in relation to other criminal and/or delinquent acts (Hirschi, 1969).

The versatile nature of low self-control may even be supported by research in biological frameworks. For instance, Blum and his colleagues (1996) claim that the genetic anomaly responsible for impulsivity (A_1 allele) is also associated with alcoholism, substance abuse, smoking, overeating, attention-deficit disorders and pathological gambling (Blum, Cull, Braverman & Cummings, 1996).

Importantly, the notion of versatility finds some confirmation in the literature on sex offending. For example, in Malmuth and Ceniti's (1986) self report study, college men who claimed to be "sexually aggressive" also rated themselves as more likely to rob and murder. Similarly convicted rapists in Amir's (1971) study did not confine their criminal behavior to one isolated incident. Close to half of the rapists had a previous arrest record and of the 637 rapists with previous records, 42 percent had at least one property offence, 20 percent were arrested for crimes against persons and 23 percent had an offence related to public order. In addition, many of the sex offenders had been arrested for drug offences (Amir, 1971). Finally, Prentky and

Knight (1991) report that the probability of re-offending is twice as great for rapists with high life style impulsivity relative to those with low impulsivity. Importantly, this hazard rate extends beyond sexual crimes to include nonsexual, victimless and victim-involved offences.

Despite the alleged support for the versatility of criminal outcomes in the general sense, the issue of whether rapists differ from child molesters in fundamental ways has not been resolved and this poses a problem for the General Theory of Crime. Specifically, the General Theory of Crime's versatility assumption contradicts the earlier research on sex offending. Gottfredson and Hirschi's General Theory of Crime argues that low self-control is versatile and as the underlying cause of crime, makes it impossible to predict criminal outcomes of any sort. In this case, a child molester should be equally likely to commit a subsequent theft, sex crime, or some other functionally equivalent act. In contrast, previous research on sex offending suggests that sex offenders show specialization in sex crimes such that child molesters possess characteristics which set them apart from rapists. The distinguishing characteristics are then believed to be indicative of fundamental differences which predispose (if they are biological) or propel (if they are social) sex offenders to repeatedly commit the same acts.

The notion of specialization in any form, directly opposes the General Theory of Crime's basic premise of versatility in self-control. The present study explores versatility in crime commission in a sample of sex offenders.

Sex Offending in the General Theory of Crime

The General Theory of Crime rests on an assumption that the conceptualization of self-control is consistent with the criminal outcomes it produces. To support this contention, Gottfredson and Hirschi (1990) provide descriptions of typical crimes, including rape scenarios which illustrate the impulsive, short-term gratifying properties of crime. Interestingly, Gottfredson and Hirschi's description of a typical sexual offence is not an accurate portrayal of sex offending in North America. Specifically, Gottfredson and Hirschi(1990) report that a *typical rape* scenario:

> begins with a public encounter at night between strangers. The woman is alone and out of public view. A lone offender either lies in wait or follows and attacks her. The attack may take place on the spot or after the victim has been forced to a more remote setting.
>
> [Moreover]. . . in the typical "nonstranger" rape, the offender and victim, who know one another only slightly, are in a vulnerable setting by mutual consent, such as in a car or apartment, and the offender forces the victim to submit. In this situation, the victim often does not call the police.
>
> One final scenario involves a woman asleep alone in her home who is awakened by a lone offender who has entered through an unlocked door or open window. After he leaves she calls the police (pp. 36-37).

Gottfredson and Hirschi emphasize sex offences committed by strangers, at night, often outdoors. This scenario is the *exception*, rather than the rule. Even more puzzling is Gottfredson and Hirschi's explanation for why sex offences are rare in family contexts and within dating relationships: "Family members and close friends apparently rarely jeopardize long-term relations by committing, or reporting rape" (p. 36). Either this statement is reflective of the preventative nature of social bonds, or Gottfredson and Hirschi are contradicting themselves. In this case, worrying about jeopardizing long-term relationships would be characteristic of someone *with self-control*. Gottfredson and Hirschi's explanation, then, suggests that everyone in a family or dating relationship has self-control! The literature on sex offending suggests otherwise.

According to the literature, a typical sexual assault takes place between victims and offenders who know one another. In addition, the victim and offender are highly likely to be involved in an *on-going* social relationship (e.g., the offender is the common-law husband of the victim). Moreover, *children* are the most common victims of sex crimes. Finally, sex offences are most likely to take place indoors, in the home of the victim.

Despite what Gottfredson and Hirschi lead us to believe, sex offenders are not strangers who lurk about in the dark.

Criminal Conditions and The Role of Opportunity in Sex Crimes

Following in the tradition of earlier theorists, (e.g., Cohen & Felson, 1979; Hindelang, Gott, & Garofalo, 1978), Gottfredson and Hirschi (1990) outline the necessary conditions for sex crimes to take place. In their description of conditions needed to produce forcible rape, Gottfredson and Hirschi claim there must be "a victim who is attractive to an offender, available to the offender, unwilling to engage in sexual activity, and unable to resist the offender's advances [as well as] an offender who is insufficiently restrained" (p. 37).

This conceptualization is, for the most part, based on Cohen and Felson's (1979) routine activity theory which outlines circumstances necessary for crime commission including the presence of a motivated offender, a suitable target, and the absence of guardianship. Specifically, an attractive and available victim in the General Theory of Crime represents someone who is a suitable target in routine activity theory. The contention that the victim is "unwilling to engage in sexual activity" is added in the General Theory of Crime to denote the specific outcome as an act of rape rather than consensual intercourse. From the point of view of the General Theory of Crime, an offender who is "insufficiently restrained" is someone who is lacking in self-control. Routine activity theory is less precise on the source of motivation. Prevention from the point of the General Theory of Crime is tied in with the individual offender's level of self-control while prevention is more likely to come from outside sources (e.g., detection and the aid of others) in routine activity approaches.

Recall that Gottfredson and Hirschi (1990) also point out that low self-control in and of itself, does not guarantee criminal outcomes because individuals with low self-control may opt for non-criminal analogous acts like drinking, smoking, gambling, or any other risky act which results in immediate pleasure (p. 91). In addition, Gottfredson and Hirschi note that situational conditions (i.e., opportunity) may impede any given act and that on occasion, an offender may commit the same crime repeatedly. Gottfredson and Hirschi (1990) clarify this contention by stating that repetition should not be taken to mean "specialization" in one offence type. Rather, "some *apparent* specialization will occur [only] because *obvious opportunities* will tend to repeat themselves" (Gottfredson and Hirschi, 1990: 92, emphasis added). The role of opportunity and its relationship to low self-control is never clarified beyond this in the General Theory of Crime.

A comprehensive test of the applicability of the General Theory of Crime to sex offending has never been conducted. Before the General Theory of Crime is applied to a new area, it is important to summarize what we have learned from previous applications of the General Theory of Crime. Since self-control is developed in early childhood, most tests of this theory have relied on self-reported psychological states which are employed as manifestations of self-control (or lack of it). A summary and critique of this literature is provided below.

Empirical Tests of the General Theory of Crime

One of the earliest tests of the General Theory of Crime was conducted by Grasmick, Tittle, Bursik and Arneklev (1993) who examined postulates of the General Theory of Crime using data contained in the 13th annual Oklahoma City Survey. Grasmick et. al. (1993) interpret Gottfredson and Hirschi's (1990) contention that low self-control traits "come together in the same people" (p. 90) to mean that low self-control traits form a unidimensional construct.

The researchers tested this premise using a factor analysis of the elements believed to underlie self-control (e.g., impulsivity, preference for simple tasks, risk seeking, physical activity, self-centeredness, and temper). Measures of low self-control included Likert scale survey items which correspond to impulsivity (e.g., "I often act on the spur of the moment without stopping to think"), risk-seeking (e.g., "I like to test myself every now and then by doing something a little risky"), self-centeredness (e.g., "I try to look out for myself first, even if it means making things difficult for other people"), quick temperament (e.g., "I lose my temper pretty easily"), an orientation towards simple tasks (e.g., "I frequently avoid things that I know will be difficult"), and a preference for physical activities (e.g., "If I had a choice, I would almost always rather do something physical than something mental").

In addition, Grasmick et. al. (1993) examined the relationship between low self-control and criminal outcomes measured as acts of force (i.e., *How many times in the past 5 years have you used or threatened to use force against an adult to accomplish your goals*) and fraud (i.e., *How many times in the past 5 years have you distorted the truth or falsely represented something to get something you couldn't otherwise obtain*) (p. 18). Finally, Grasmick et. al. (1993) examined situations which readily afforded acts of force or fraud in order to test the General Theory of Crime's contention that low self-control interacts with *criminal opportunity* to predict criminal outcomes.

Factor analyses indicated that impulsivity, risk seeking tendencies, self-centeredness, quick temperament, and a preference for simple, action-based, tasks produce a single factor model of low self-control. In addition, there was a significant interaction effect of opportunity and low self-control but *no main effect of low self-control* on criminal behavior. Moreover, the coefficient with the largest magnitude was for the direct effect of criminal opportunity on crime. The findings of Grasmick et. al.'s study suggest that low self-control is a unidimensional (as opposed to multi-dimensional) trait. Further, the effect of low self-control on criminal outcomes is indirect. Finally, the results indicate that the role of opportunity is underestimated in Gottfredson and Hirschi's (1990) General Theory of Crime.

The same researchers also tested the General Theory of Crime by examining the separate and combined effects of the same six self-control measures on smoking, drinking, and gambling; imprudent behaviors which Gottfredson and Hirschi (1990) contend are conceptually equivalent to acts that are legally defined as crime (Arneklev, Grasmick, Tittle, & Bursik, 1993). Again, self-control is assumed to be single, unidimensional latent trait. Although findings indicated that a low self-control composite of the six trait items significantly predicted overall imprudence, the composite measure accounted for only 3.3.% of the variance in the dependent measure.

Results for the effects of separate self-control measures showed that a preference for simple tasks and an orientation towards physical activities did *not* predict any form of imprudence in the direction suggested by the General Theory of Crime. Items corresponding to risk-seeking had the greatest overall predictive power, suggesting that some measures of low self-control may be more important in explaining crime and analogous behaviors than others. Alternatively, the operationalization of self-control may not be straightforward. In addition, the role of opportunity was not taken into account. Finally, indicators of low self-control were better able to predict measures of gambling and drinking, and were only weakly related to smoking suggesting that self-control may be limited in its ability to predict all crimes and analogous behaviors.

Brownfield and Sorenson (1993) also tested the utility of self-control indicators (i.e., an inability to delay gratification, a lack of identification with parents, etc.) for predicting delinquency using data from the 1964 Richmond Youth Study. Findings indicated that self-control items were inter-correlated (as predicted by the

General Theory of Crime), and independent educational measures (e.g., achievement expectations and orientations toward time) described one dimension of low self-control. However, the analyses also showed evidence for two other self-control factors (one relating to relationship with parents and the other composed of expectations of educational achievement). Brownfield and Sorenson interpret these findings as inconsistent with the General Theory of Crime's basic premises (i.e., that self-control is a unitary concept with a single dimension). Even more damaging to the General Theory of Crime, measures of self-control did *not* predict self-reported delinquency.

Other studies also fail to support the role of self-control in predicting crime and analogous behaviors. Creechan (1995), for example, tested the General Theory of Crime using data on delinquent behaviors and school drop-outs. Specifically, Creechan employed logistic regression analyses to evaluate how well family structure, guardianship, personal commitment, and the act of dropping out of school predict subsequent criminality, measured by whether or not a person had been arrested. An indirect measure of personal commitment was used as the primary indicator of self-control. Personal commitment was inferred from ties to conventional society in the form of survey statements involving opinion of school rules, enjoyment of school, participation in class, and the belief that courses are useful and that classes are interesting. Results indicated that the relationship between problems in school and subsequent criminality was not predicted by Gottfredson and Hirschi's (1990) theory when self-control was operationalized using an indirect measure of personal commitment.

Using self-report data, Forde and Kennedy (1997) respecified the General Theory of Crime to include lifestyle measures which impede on criminal opportunities. Specifically, the researchers examined how individual responses in dispute situations (e.g., emotional reactions, demands for compensation, and aggressive responses) interact with low self-control to influence crime risk. Forde and Kennedy operationalized low self-control into simple tasks, risk-seeking, temperament, physicalness, self-centeredness, and impulsiveness. Forde and Kennedy developed measures of crime consistent with earlier research on imprudent behaviors (i.e., drinking, smoking, speeding, driving without a seatbelt). Crime risk was operationalized as victimization experiences and actual arrests. In accord with the earlier findings of Grasmick et. al. (1993), Forde and Kennedy's results showed no direct effect of low self-control on criminal behavior. However, low self-control did influence imprudent behaviors, which were associated with criminal and victimization outcomes.

Forde and Kennedy's research also diverges from the earlier tests of the General Theory of Crime in an important way. Forde and Kennedy assume that there are *multiple* dimensions of low self-control. In other words, low self-control consists of six *separate* dimensions (e.g., a preference for simple tasks, risk-seeking, a quick temperament, a preference for physical activities, self-centeredness, and impulsivity). Previous tests of the General Theory of Crime worked from the assumption that the six elements combined to form a single dimension of low self-control.

Findings from Forde and Kennedy's (1997) study also help to clarify some of the unanticipated results of previous tests of the General Theory of Crime. Consistent with Grasmick et. al.'s (1993) findings, Forde and Kennedy's results suggest that the effects of low self-control on criminal and analogous outcomes are mediated by opportunities. Thus, it is not surprising that earlier studies which failed to employ a measure of opportunity also failed to find a direct effect of low self-control on criminal and/or analogous outcomes. An alternative explanation for the inconsistencies in the results across earlier studies is that self-control may be indicative of criminal outcomes *only* in cases where the dependent measures are closely associated with the self-control indicators used to predict them.

For example, Keane, Maxim, and Teevan (1993) examined impaired driving as a function of risk-taking (i.e., low self-control) in drivers. In operationalizing elements of self-control (i.e., risk-taking and impulsivity), Keane et. al. included whether or not the drivers wear seatbelts, and the number of alcoholic drinks consumed in the previous 7 days (along with other self-reported psychological measures). The dependent variable in this study was driving under the influence of alcohol (DUI) as measured by blood alcohol concentration (BAC) obtained using a breathalyzer test that was administered by surveyors (p. 34).

Findings indicated that both behavioral measures were indicative of drinking and driving. That is, people who wear seat belts are likely to have lower BAC levels than those who do not, and the number of drinks consumed over the last 7 days was related to blood alcohol content levels. Although Keane et. al's (1993) study is highly supportive of the General Theory of Crime, the authors' approach to testing self-control can be criticized on methodological grounds for being "tautological" since both the independent and dependent measures relate to negligent driving habits (see Barlow, 1991 for a similar criticism of the General Theory of Crime).

Empirical studies report mixed support for Gottfredson and Hirschi's General Theory of Crime. Questions remain as to the utility of self-control indicators for predicting criminal and deviant outcomes. For example, it is unclear whether relationships between measures of low self-control and criminal outcomes reflect causal or circular relationships. In addition, these studies do not resolve the issue of whether self-control is a unitary latent trait with one underlying dimension (e.g., Brownfield and Sorenson; Grasmick et. al, 1993; Arneklev et. al, 1993), or whether self-control is better represented by multiple, independent indicators (as employed by Forde and Kennedy, 1997). Moreover, some elements of low self-control may be more important than others for explaining criminal and deviant acts. Further, the interaction effect of low self-control and criminal opportunities for delinquent outcomes warrants clarification. Finally, the extent to which self-control accounts for all delinquent, criminal, and analogous outcomes, remains unclear.

Self-Control Warrants Further Investigation

The major goal of the present study is to assess the applicability and predictive power of the General Theory of Crime for explaining sex offending. Before this can be accomplished, measurement issues related to the theory's central construct need to be addressed.

For example, some tests of the General Theory of Crime focus on measuring the elements of ***high self-control*** which are believed to predispose individuals to behave in conventional ways including a tendency to delay gratification, an ability to persist in completing tasks, and a commitment to conventional goals (e.g., a stable marriage, a stable job, etc.). Alternatively, other researchers have focused on *low self-control*, examining the opposite tendencies (i.e., a predisposition towards risk-taking, a tendency to be impulsive, an inability to delay gratification, etc.). In all of these studies self-control is viewed as an attribute in which people have either low self-control or they have high self-control.

Gottfredson and Hirschi (1990) develop the General Theory of Crime on the premise that criminals lack self-control and people who refrain from crime have high self-control. These assumptions are consistent with the manner in which most researchers have conceptualized self-control in their tests of the General Theory of Crime. However, the General Theory of Crime also rests on the assumption that there are individual differences in self-control and that people differ in the degree to which they manifest self-control. To the extent that self-control differs across individuals, it may be more appropriate to conceptualize self-control as a variable that ranges on some continuum from low to high levels. The present study is unique in that it treats self-control as a variable rendering it possible to examine degrees of self-control.

Another issue in the conceptualization of the General Theory of Crime's key construct involves whether to view self-control as a single or multi-dimensional trait. In one form self-control is assumed to be a single, underlying trait that has many independent personality dimensions (Forde and Kennedy, 1997). Alternatively, self-control may be seen as a unitary personality trait with one dimension (Arneklev, Grasmick, & Tittle, 1993; Brownfield and Sorenson, 1993; Grasmick, Tittle, Bursik, & Arneklev, 1993; Polakowski, 1994). In either case, the focus is on measuring personality factors which are indicative of self-control (or a lack of it).

Hirschi and Gottfredson (1993) contend that both conceptualizations of self-control are *not* consistent with the assumptions that form the basis of the General Theory of Crime. In an commentary on testing the General Theory of Crime, Hirschi and Gottfredson (1993) argue against equating self-control with personality dimensions. Although the authors never operationalize their key construct, Gottfredson and Hirschi claim self-control is not an inherent condition which predisposes an individual to behave in criminal ways.

Rather, self-control is seen as "the barrier that stands between the actor and the momentary benefits crime provides" (p. 53). Thus, crime commission is a by-product of the failure to develop adequate self-control but crime is not a necessary outcome of low self-control. Hirschi and Gottfredson advocate that "the best indicators of self-control are the acts we use self-control to explain: criminal, delinquent, and reckless acts" (p. 49). In other words, self-control is best measured by behavioral indicators, not self-reported psychological states.

Keane, Maxim, and Teevan's (1993) earlier study on the relationship between self-control and impaired driving is the only test of the General Theory of Crime that employs direct behavioral measure of low self-control. However, Keane et. al's study has been criticized on methodological grounds. As noted earlier, it can be argued that the independent measures (i.e., wearing seatbelts, drinking in the previous week) are not conceptually distinct from the dependent measure (i.e., driving while under the influence of alcohol).

Akers (1991) criticizes the General Theory of Crime on the same grounds, pointing out that self-control is not defined independent of the tendency to commit crimes. Akers suggests that independent indicators of self-control are necessary to clarify the relationship between low self-control and criminal and analogous outcomes. The present study resolves both of these issues through its use of behavioral indicators of self-control that can be distinguished from the dependent measures.

In summary, this research differs from the previous tests of the General Theory of Crime in three important ways. First, the present study conceptualizes the General Theory of Crime's key construct (i.e., self-control) as a variable that is operationalized on a continuum from low to high. In addition, the present study employs multiple behavioral indicators of self-control. Finally indicators of self-control used in this study are functionally independent from the dependent measures.

Testing a General Theory of Sex Offending

If Gottfredson and Hirschi's (1990) General Theory of Crime explains all forms of crime, delinquency, and analogous acts, then data on sex offending should lend support to the basic tenets of the General Theory of Crime. Any application of the General Theory of Crime as an explanation of sex offending should include an evaluation of the theory's central construct (i.e., self-control). This study focuses on the stability and versatility features of self-control which are summarized below.

Stability: Self-Control as a Stable Construct

The General Theory of Crime assumes that there are individual differences in self-control. Moreover self-control is a stable construct: Individuals who possess traits indicative of lower levels of self-control (e.g., impulsivity, risk-taking, etc.) will engage in criminal and analogous behaviors at higher rates throughout their lifetime than people with higher levels of self-control. Gottfredson and Hirschi (1990) argue that individuals with very low levels of self-control will begin to 'stand out' over time as a result of their continual offending, irrespective of maturational processes which lead to decreased criminality with age.

Sex offenders tend to be an older criminal population (i.e., the average age is 38 years) suggesting that sex offenders have not developed adequate self-control over time. Because the present study does not include a control group it is impossible to determine whether sex offenders have lower levels of self-control than individuals who have not been identified as sexual offenders. However, the convicted sex offenders who comprise the sample for this study are a group of men who have been studied extensively such that multiple measures of self-control can be obtained. The present study describes self-control in sex offenders, examining variability in self-control within the sample (Hypothesis 1). In contrast to the General Theory of Crime, which views self-control in absolute terms (where criminals have low self-control and non-criminals have high self-control), this study views self-control as a variable that ranges from low to high levels.

Further, the sex offenders' clinical records include information on behaviors from childhood and adulthood as well as follow-up recidivism data so that stability in self-control can be assessed over time. Consistent with the General Theory of Crime, it is expected that early measures of self-control (i.e., level of trouble at school, quit school, expelled from school, failed a grade) will be associated with measures from adulthood (e.g., level of alcohol use, job stability) (Hypothesis 2). Stability in self-control leads to the assumption that the lower the self-control the greater the criminal recidivism following treatment (Hypothesis 3). This study also examines the adequacy of self-control in explaining non-criminal outcomes.

Specifically, it tests whether self-control predicts treatment completion, a measure that is conceptually distinct from the indicators of self-control and from legal definitions of crime (Hypothesis 4).

Versatility: Self-control as a versatile construct

The General Theory of Crime predicts that individuals with low self-control will commit a wide variety of criminal and analogous acts such that specialization in offending only occurs to the extent that opportunities to do so repeat themselves (Gottfredson and Hirschi, 1990). In their explanation of the General Theory of Crime, Gottfredson and Hirschi (1990) imply that a term such as "rapist", "pedophile" or "incest offender" is nothing more than a retrospective label. That is, knowing someone has committed a sexual assault against an adult female (i.e., a rapist) will not help predict future crime commission. In this case, a rapist would be just as likely to commit a subsequent sexual assault as he would be to commit theft over $1000. Similarly, that rapist may turn to heavy drinking or get into an accident long before that person commits a subsequent sex offence.

The previous literature on sex offending suggests differences in self-control between child molesters and rapists. Specifically, earlier research suggests that rapists have lower levels of self-control than child molesters. The General Theory of Crime makes no such prediction, arguing instead, against the use of typologies altogether. To resolve this discrepancy, the present study examines whether levels of self-control differentiate between sex offender types (e.g., rapists, pedophiles, and incest offenders) (Hypothesis 5).

Summary of Hypotheses to be Tested

Hypothesis 1: In contrast to the General Theory of Crime, *self-control will vary within sex offenders.* That is, the General Theory of Crime views self-control in absolute terms where criminals have low self-control and non-criminals have high self-control. This study predicts variation in self-control within criminals.

Hypothesis 2: Consistent with the General Theory of Crime, *early measures of self-control will predict later ones.*

Hypothesis 3: Consistent with the General Theory of Crime, *the lower the self-control, the greater the criminal recidivism in sex offenders.*

Hypothesis 4: Consistent with the General Theory of Crime, *the lower the self-control, the lower the likelihood of completing sex offender treatment.*

Hypothesis 5: In contrast to the General Theory of Crime but consistent with previous research on sex offending, *measures of self-control will differentiate between sub-types of rapists, pedophiles, and incest offenders.*

Concepts that form the basis of these hypotheses are operationalized in Chapter 3 which describes the methodology and measures for this study.

CHAPTER III: METHODOLOGY AND MEASUREMENT

The Present Study

The purpose of the present study is to assess the applicability and predictive power of Michael Gottfredson and Travis Hirschi's (1990) *General Theory of Crime* for explaining sex offending.

Design

In order to test the main hypotheses of the present study, secondary data analysis was conducted using information contained in sex offenders' clinical files (e.g., psychiatric reports, nursing assessments, group therapy notes, social work accounts, legal documents, and clinical notes from interviews with patients, family members, and spouses or girlfriends, etc.). Existing demographic data is also reported in order to describe the characteristics of the rapists, pedophiles, and incest offenders whose clinical records form the basis of this study.

Sample

The nonprobability convenience sample used for this study included clinical records of 240 adult male sex offenders who underwent assessment in the Phoenix Program at Alberta Hospital Edmonton between 1987 and 1993.

Criteria for inclusion in this study pertained to the availability of post-discharge Canadian Police Information Centre (C.P.I.C.) results and the interval between post-treatment discharge and the most recent C.P.I.C. update. Analyses were restricted to cases in which post-discharge C.P.I.C. results were available. Post-discharge C.P.I.C. statements are criminal offence summaries that indicate the type of criminal conviction committed by a given individual (e.g., a property offence, a sexual assault, etc.) as well as the date of that conviction. C.P.I.C. results were used in the operationalization of recidivism.

In addition, the analyses only included files for patients whose treatment ended at least 2 years prior to a C.P.I.C. update conducted between September and December of 1995. This means that files on patients whose treatment ended after December 1993 were not included in this sample. In other words, files for patients whose treatment ended between December of 1987 and December of 1993 formed the basis of the sample used in this study.

A 2 year interval between the end of treatment and the C.P.I.C. update was used to standardize the recidivism risk period across sex offenders. In this case, all offenders had at minimum of two years following treatment within which they could acquire a criminal conviction for any offence. The 2 year interval adjusted for differences in treatment length, post-treatment probation length, and post-treatment jail sentences across offenders.

For example, prisoners who complete treatment spend the last portion of their jail sentence at Alberta Hospital Edmonton and thus undergo no additional time in prison. Treatment completers spend close to a year (M = 10.89 months, SD = 3.05 months) in the Phoenix Program and then just over a year (M = 12.6, months, SD = 14.56 months) on probation following release from treatment. In contrast, those who fail to complete treatment spend only two and a half months (M = 2.66 months, SD = 3.05 months) in the Phoenix Program before returning to prison where they serve more than a year (M = 13.35 months, SD = 10.42 months) followed by close to the same amount of time (M = 13.81 months, SD = 14.56 months) on probation.

The reason prison time is slightly longer for treatment terminators than time in treatment for program completers is that treatment time is considered "dead time" for those who do not successfully complete the Phoenix Program. In this case, no allowance is made for the time spent in treatment such that the prison sentence starts back at the time remaining prior to admission into the Phoenix Program. Using a minimum 2-year post-discharge interval between treatment completion and C.P.I.C.

update, then, ensured that all offenders experienced time outside of an institution in which they could have committed a subsequent offence (i.e., a recidivism risk period).

Of the 298 cases which met the inclusion criteria, 57 (19%) of these were excluded as follows. Twenty-one cases were omitted because they involved current clients (a stipulation from the ethical review process), 12 were excluded because they involved recently discharged patients whose files were not completely updated, and 11 cases were omitted from the analyses because the patients' files had been sent for microfiching. Eight cases were excluded due to multiple admissions to the program. In addition, 5 cases were left out of the analysis because they pertained to individuals who are now deceased (cause of death unknown).

Although there is no reason to believe that the current cases or missing files would differ in any meaningful way from the ones used in this analysis, the files omitted due to multiple admissions or death may be indicative of offenders who are most likely to re-offend. In this case, caution needs to be taken in generalizing the results of this study to all patients who undergo treatment in the Phoenix Program.

Phoenix Program at Alberta Hospital Edmonton

Alberta Hospital Edmonton is a psychiatric facility that developed an in-patient treatment regime exclusive to sex offenders in 1987 referred to as the "Phoenix Program." Alberta Hospital Edmonton takes referrals from various Canadian Federal and Provincial Correctional Facilities (e.g., Bowden, Drumheller). Admission to the Phoenix Program is voluntary but is subject to approval by the head physician who assesses applicants based on the following criteria.

All patients accepted for treatment must be adult sex offenders who admit guilt pertaining to the offence for which they are serving time (i.e., they do not deny committing the offence), they must have no prior history of psychotic illness, and the offenders must be willing to undergo a minimum of six months treatment (Clelland, Studer, & Reddon, 1997; Reddon, 1994; Studer, Reddon, Roper, & Estrada, 1996). Inclusionary criteria may bias this sample in the direction of treatment completion.

Treatment consists of three phases including an in-patient segment at Alberta Hospital Edmonton (Phase I) that last approximately 6-10 months. Phase I consists of extensive unstructured group psychotherapy sessions in conjunction with cognitive and behavioral components that focus on issues directly and indirectly related to offending (e.g., an exploration of deviancy, victim empathy, anger management, and relapse prevention).

Phase II includes 4-6 months of intensive out-patient assessment involving group therapy sessions 4 hours a day, 5 days per week. Finally, Phase III includes weekly follow-up sessions over a one-year period to monitor on-going progress and provide supportive therapy (Clelland, Studer, & Reddon, 1997; Reddon, 1994; Studer, Reddon, Roper, & Estrada, 1996).

The analysis reported in this study is based on patient information collected during Phase I of treatment (i.e., Phoenix Program) where all patients undergo a four-week assessment period consisting of extensive structured and informal interviews along with laboratory tests and the administration of several survey questionnaires. Offender demographics (e.g., age, weight, height, marital status, race, etc.) and criminal history (e.g., number of current violent, sexual, property, alcohol, drug, and other charges as well as number of previous offences for the same categories) are obtained during this phase.

Further, patients are examined by a psychiatrist whose general observations, medical assessments, and clinical notes are included in patient files along with documentation of medical treatment (e.g., types of drugs administered, physical tests performed, etc.).

In addition to psychiatric evaluations, information on the patients' medical history and family history is provided by social workers who ask patients to describe events that precipitated the sex offence, discuss family of origin dynamics, describe problems in past and current relationships, outline drug and alcohol use, describe sexual histories, along with other issues that may contribute to sex offending. The structured interview data is then substantiated and supplemented with information obtained through conversations with family and friends.

Patients also undergo extensive psychological testing where they complete a battery of questionnaires (e.g., they complete the Minnesota Multiphasic Personality Inventory, (MMPI), the Novaco Anger Scale, Empathy Scale, etc.). (For more information on the MMPI refer to Hathaway and McKinley, 1991; for an explanation of the Novaco Anger Scale see Novaco, 1994, and for more information on the Empathy Scale, refer to Mehrabian and Epstein, 1971). Test scores are included in patient files (but answers to individual items on a given test are not).

Detailed patient information is also generated through assessments conducted by nurses, occupational therapists, recreational therapists, and forensic therapists. In addition, group psychotherapy sessions form the basis of treatment in the Phoenix Program and, consequently, generate extensive documentation in the form of notes which describe patient progress through these sessions. Finally, patient files include information on discharge arrangements following treatment completion (Studer, 1995; Kirkby, 1996; Kirkby and Milne, 1995).

Discharge From the Phoenix Program

From 1987 to 1993, between 14 and 45 individuals were discharged each year from the Phoenix Program. Table 1 shows the number of discharges per year by Phoenix Program (Phase 1) treatment completion.

The percentage of patients who complete and terminate treatment varies considerably from year to year. The overall results show that approximately half of all offenders admitted to the Phoenix Program complete treatment (N = 121) while the other half do not (N = 119). This finding is important because it represents considerable variation in treatment completion, a dependent measure in this study.

Table 1

Phoenix Program Discharge Years by Treatment Completion

Treatment	Total	Completed Treatment	Terminated
Discharge Year			
1987	14	5 (36)	9 (64)
1988	34	16 (47)	18 (53)
1989	43	19 (44)	24 (56)
1990	45	24 (53)	21 (47)
1991	31	18 (58)	13 (42)
1992	44	24 (55)	20 (45)
1993	29	15 (52)	14 (48)
Total	240	121 (50)	119 (50)

Ethical Considerations

Due to the sensitive nature of the topic and the use of a clinical sample, this study was subject to a lengthy ethical review process involving internal (institutional) and external (university) governing bodies. The internal review process included obtaining approval from the Program Director of Forensic Psychiatry to conduct research at Alberta Hospital Edmonton, approval from the Clinical Director of Forensic Psychiatry to conduct the study, and consent from the Head Physician of the sex offender treatment program to access the Phoenix data.

In addition, it was necessary to take an oath of confidentiality concerning information in patient files. Finally, approval was obtained from the Alberta Hospital Edmonton Research Ethics Review Board as well as the Alberta Hospital Research Coordination Committee. The external review was conducted and approved by the Department of Sociology's Ethics Review Committee and the University of Alberta's Research Review Committee.

Data Collection

The Research Centre at Alberta Hospital Edmonton maintains a data base which contains measures taken from patient files including information on patient characteristics (e.g., educational attainment, marital status, etc.), treatment completion, and recidivism (i.e., re-offending) used primarily for client assessment. Some of these data points were used to create theoretical measures for the present study (see independent and dependent measures sections below).

Indicators of self-control among sex offenders were constructed from information contained in the patient's original files (see independent measures section). Patient files in hard copy and microfiche form were made available in a secured area of the Phoenix Program unit or in the Records Department at Alberta Hospital Edmonton.

Due to ethical implications, the accuracy of information contained in patient records such as self-reported offence characteristics and statements concerning family history cannot be validated. However, self-report measures were matched against similar assessments conducted in different clinical areas (e.g., nursing and social work), reports from the Canadian Police Information Centre (C.P.I.C.), and statements taken from patients' friends and family members to try and obtain the most accurate reports possible.

Sex Offender Types

Consistent with Quinsey's (1986) operational definition, patients were classified as child molesters if their victims were 13 years of age or younger (N = 158) and rapists if their victims were 14 years of age or older (N = 82). Child molesters were further subdivided into incest offenders (N = 108) and pedophiles (N = 50) on the basis of victim relationship to offender. Incest offenders consisted of child molesters whose victims were family members (e.g., their natural, step or adopted children, nieces, nephews, grandchildren, etc.) while pedophiles were child molesters who selected non-familial acquaintances or strangers as victims.

Independent Measures

Sex Offender Characteristics[3]

In order to describe the sex offender sample, demographic characteristics (i.e., age, educational attainment, marital status, ethnicity), and measures pertaining to criminal and treatment histories (i.e., number of prior offences, number of prior sex offences, length of prison term, length of probation term, length of time in treatment in the Phoenix Program, number of months spent in prison following discharge from the Phoenix Program, and number of months on probation following discharge from the Phoenix Program) are included in the analysis.

Marital Status

The percentage of sex offenders who were married, single, living common-law, divorced, separated, or widowed at the time of their criminal conviction are shown in Table 2 according to offender type (i.e., incest offenders, pedophiles, rapists) (see Table 2 below).

Table 2

Marital Status by Offender Type

	Married	Single	Common Law	Divorced	Separated	Widowed
	N(%)	N(%)	N(%)	N(%)	N(%)	N(%)
Incest Offender (N = 108)	51 (47.2)	18 (16.7)	9 (8.3)	11 (10.2)	18 (16.7)	1 (0.9)
Pedophile (N = 50)	7 (14.0)	25 (50.0)	4 (8.0)	7 (14.0)	5 (10.0)	2 (4.0)
Rapist (N = 82)	21(25.6)	36 (43.9)	10 (12.2)	9 (11.0)	6 (7.3)	0 (0.0)

Table 2 shows that slightly more than half of the incest offenders (55.5%) were married or living common law at the time of the offence which resulted in their conviction. In contrast, 38% of rapists, and only 22% of the pedophiles were married or living in common law relationships (see Table 2). Results of a Chi-Square test for independence showed that marital status varies by offender type, X^2 (10, N = 240) = 38.66, $p = > .001$. The pattern of findings is interpreted in more detail below.

In general, findings indicate that most incest offenders were married, separated, or living in common-law relationships (72%) when they committed their sex offence. Access to one's *own* children is a necessary condition for an incest crime, so it is not surprising that most incest offenders were in or had been in relationships with members of the opposite sex prior to commission of the sex offence. On the other hand, most pedophiles were single or divorced (64%) when they were convicted for the sex crime. This finding lends support to clinical literature that suggests that pedophiles have difficulties initiating or maintaining relationships with adult females (i.e., they have low heterosexual competence; see Bard et. al., 1987). Rapists, on the other hand, fall somewhere in between incest offenders and pedophiles; 44% were single while another 38% were either married or living in common-law relationships when they committed their sex crime.

Table 3

Ethnicity by Offender Type

	Caucasian	Native	Metis	Black	Inuit	Latino
	N(%)	N(%)	N(%)	N(%)	N(%)	N(%)
Incest Offender (N = 108)	96 (88.9)	8 (7.4)	3 (2.8)	0 (0.0)	1 (0.9)	0 (0.0)
Pedophile (N = 50)	44 (88.0)	3 (6.0)	0 (0.0)	2 (4.0)	0 (0.0)	1 (2.0)
Rapist (N = 82)	58 (70.7)	19 (23.2)	4 (4.9)	1 (1.2)	0 (0.0)	0 (0.0)

Ethnicity

Table 3 portrays the percentage of sex offenders who are Caucasian, Native, Metis, Black, Inuit, and Latino (see Table 3). As shown in Table 3, the vast majority of sex offenders in this sample were Caucasians. However, the sample consisted of a small number of Native, Metis, Black, Inuit, and Latino offenders.

Ethnicity was associated with offender type, X^2 (10, N = 240) = 25.44, p = .004. Although most of the offenders are Caucasian, a higher proportion of natives are found among rapists (23.2%) than incest offenders (7.4%) and pedophiles (6.0%).

Offender Characteristics

Means and standard deviations are computed for existing offender characteristics (age, educational attainment) and measures of criminal and treatment histories (number of prior offences, number of prior sex offences, length of prison term, length of probation term, length of treatment, number of post-discharge prison months, number of post-discharge probation/parole months) (see Table 4).

Table 4

Descriptive Measures by Offender Type

	Age (years)	Education (years)	Prior Offences	Prior Sex Offences	Prison Term	Probation (months)	Treatment (months)	Post-Dis Prison	Post-Dis Probation
Offender Type	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Incest Offender (N = 108)	36.8_a (8.5)	10.1_a (1.9)	2.5_a (5.4)	0.2_a (0.5)	18.9_a (9.2)	14.9 (13.5)	6.6 (5.0)	6.3 (9.2)	10.3 (12.0)
Pedophile (N= 50)	39.6_a (12.1)	10.3_a (1.9)	3.4 (5.3)	0.7_b (1.2)	19.0_a (14.4)	14.1 (14.5)	6.1 (4.9)	5.9 (7.6)	8.6 (11.0)
Rapist (N = 82)	32.2_b (9.5)	10.1_a (1.7)	6.0_b (9.6)	0.5 (0.9)	34.2_b (34.5)	10.5 (12.8)	7.5 (5.6)	7.5 (11.9)	10.0 (12.5)

NOTE: Means with different subscripts differ significantly at $p < .05$ by Scheffe's S test

A post-hoc comparison of the means using Sheffe's (1953; 1959) procedure indicates that rapists tend to be younger (M = 32.2 years, SD = 9.5 years) than incest offenders (M = 36.8 years, SD = 8.5 years) and pedophiles (M = 39.6 years, SD = 12.1 years), F (2, 237) = 10.11, p < .001.

Sex offenders complete an average of 10.2 years of education (SD = 1.8 years), with no difference in level of educational attainment by offender type, F (2, 237) = 0.24, p = n.s.

Sex offenders undergo 6.8 months (SD = 5.2) of treatment in the Phoenix Program, followed by 6.6 months (SD = 9.9) of prison (for those who fail to complete treatment), and 9.8 months of post-discharge probation (SD = 11.9 months).

There are no differences in length of treatment, post-discharge prison term, or post-discharge probation by offender type, F (2, 237) = 1.64; F (2, 237) = 0.57; and F (2, 237) = 0.37; p = n.s., respectively.

In terms of prior offences, rapists commit twice as many non-sexual crimes (e.g., drug offences, property offences, etc.) (M = 6.0 convictions, SD = 9.6 convictions) relative to pedophiles (M = 3.4 convictions, SD = 5.3 convictions) and incest offenders (M = 2.5 convictions, SD = 5.4 convictions), F(2, 237) = 5.65, p = .004. Not surprisingly, rapists spend more time in prison (M = 34.2 months, SD = 34.5 months) compared to incest offenders (M = 18.9 months, SD = 9.2 months) and pedophiles (M = 19.0 months, SD = 14.4 months), F (2, 237) = 12.87, p <.001. Pedophiles are more likely than incest offenders to have been convicted of an earlier sex offence; (M = 0.7 convictions, SD = 1.2 convictions and M = 0.2 convictions, SD = 0.5 convictions, respectively), F (2, 237) = 6.78, p = .001.

Indicators of Self-Control

In a commentary on testing the General Theory of Crime, Hirschi and Gottfredson (1993) suggest that it is desirable to assess self-control in adults through multiple behavioral indicators such as difficulty in interpersonal relations, employment instability, automobile accidents, drinking, and smoking (p. 53). Consultation with clinical staff and an extensive examination of the information contained in patient files revealed many behaviors that could be used to represent self-control in sex offenders. To organize this information, I created indicators of self-control centered on three aspects of offenders' lives: early school behavior, job instability at the time of the offence, and substance abuse history.

Measures for early school behavior include whether the offender failed a grade, quit school, or was expelled from school, as well as the level of trouble experienced while at school. Indicators of failed a grade, quit school, and expelled from school are all dichotomous measures with yes/no categories.

Failed a grade (FAIL) indicates whether or not an offender ever failed a grade in school, *quit school (QUIT)* is a measure of whether an offender quit school on at least one occasion, and *expelled from school (EXPULSION)* indicates expulsion from school on at least one occasion. *Level of trouble at school (TROUBLE)* is created with four response categories ranging from 0 (no problems at school) to 3 (was expelled from school on at least one occasion), with levels 1 (at least one major source of trouble) and 2 (2 major sources of trouble) falling between these extremes (for more information on coding criteria, see Appendix A).

Job Instability is measured in four levels of employment instability ranging from a category of 0 pertaining to "a mainly stable, full-time employment history" to 3 "a highly unstable employment history." A patient with a level 3 employment history would meet at least one of the following criteria: 1) offender has never been employed; 2) offender has quit at least two forms of employment (for reasons other than moving on to a better position elsewhere; 3) offender has been fired from two or more sources of employment; 4) offender has held more than 20 short-term jobs (e.g., of two months duration or less. Levels 1 and 2 fall between these extremes, with level 1 depicting a history of part-time, short-term, stable employment and 2 representing one or more major sources of instability (e.g., fired on at least one occasion, prolonged use of social assistance, etc.).

Substance abuse behaviors include level of alcohol use, level of soft drug use, level of hard drug use, prescription drug abuse, as well as Michigan Alcohol Screening Test scores and Drug Abuse Screening Test scores. *Level of alcohol use* (i.e., liquor consumption) has four response categories ranging from 0 to 3 where 0 indicates that the offender does not use alcohol, 1 refers occasional use of alcohol (e.g., a social drinker who periodically consumes 1 or 2 drinks), 2 refers to moderate use of alcohol (e.g., the offender admits to getting drunk periodically, alcohol was implicated in the offence, etc.), and 3 represents alcohol dependence (indicated by a clinical diagnosis, or self-admittance).

Level of soft drug use (e.g., marijuana, hashish) also has four categories ranging from 0 to 3, where 0 refers to "never used a soft drug," 1 represents having tried any soft drug on 1-2 occasions, 2 means the offender uses soft drugs on occasion, and 3 refers to "an abuser" (who regularly uses soft drugs or has been diagnosed with a substance abuse problem in this regard).

Similarly, *level of hard drug use* (e.g., heroin, cocaine) is coded into four levels ranging from 0 to 3, where 0 refers to "never used a hard drug," 1 represents having tried any hard drug on 1-2 occasions, 2 means the offender uses hard drugs on occasion, and 3 refers to "an abuser" (who regularly uses hard drugs or has been diagnosed with a substance abuse problem in this regard).

Prescription drug abuse (e.g., Tylenol 3, valium) is coded into the dichotomous categories of 1 (evidence of prescription drug abuse) or 2 (no evidence of prescription drug abuse).

The *Michigan Alcohol Screening Test (MAST)* contains 25 behavioral statements designed to detect alcoholism (Selzer, 1971). Responses include the dichotomous categories of "yes" or "no." Items are assigned a weight of 0-5, where 5 indicates alcoholism. For example, a negative response to item 4. "Can you stop drinking without a struggle after one or two drinks?" is weighted "2" as is a positive response to item 15. "Have you ever lost a job because of drinking?" A total score of 5 or more indicates alcoholism. A MAST score, then, is included as an indicator of alcohol abuse.

The Drug Abuse Screening Test (DAST) is a 20 item scale that is an index of illegal (non-prescription) drug abuse (Skinner, 1982). Responses include "yes" or "no" categories where affirmative responses are indicative of drug abuse when a yes response is given for 5 or more of the items. Sample items include behavioral statements such as 4. "Can you get through the week without using drugs?" and 15. "Have you ever engaged in illegal activities in order to obtain drugs?" A DAST score is used as an indicator of drug abuse.

To evaluate inter-rater reliability for measures of low self-control created from information contained in patient files, 10 files were randomly selected from the larger sample and were independently coded by myself, and a forensic therapist from the Phoenix Program. Self-control items were recorded in accordance with the code book and coding sheet for Testing the General Theory of Crime (shown at the end of Appendix A). For example, raters noted whether or not an offender failed a grade by recording a 1 for yes; 2 for no; and by leaving a blank space where the information was unknown (i.e., it could not be located in the existing patient file). Each set of ratings was then examined for inter-rater consistency.

Interrater reliabilities were determined using Pearson product-moment correlation coefficients. Failed a grade, quit school, expelled from school, soft drug use, and prescription drug abuse all had a reliability of 1.0 (indicating 100% agreement across independent raters for all ten patient files).

Reliability for remaining variables was .76 or greater (i.e., trouble in school, .81; level of job instability, .87; level of alcohol use, .76; and level of hard drug use, .86). Inspection of the codes and discussion between raters indicated that 6 of the 9 discrepancies (taken together) involved a failure to locate the relevant information in the patient file (i.e., the measure was coded by the forensic therapist as missing). These discrepancies are directly related to time. I spent approximately 3-6 hours per file during the coding process depending on the amount of information contained in a file (i.e., files ranged from approximately 20 pages for patients who failed to complete treatment to several hundred pages for patients who completed treatment). The therapist was asked to review the 10 files on shift breaks during over a period of approximately one week. An agreement between raters was reached in all instances involving discrepancies related to missing data.

In 2 cases, the forensic therapist interpreted a measure using information that went beyond that contained in a file (i.e., a judgment was based on patient statements made during therapy sessions that were not documented in the files). For example, I found no indication of trouble in school in one patient's file while the therapist listed the level of trouble as 2 based on conversations he had with the offender.

Although my data is biased in the direction of being conservative, to be consistent throughout data collection, all measures included in the analyses are based on information contained in patient files only. The only remaining discrepancy between my coding and that of the therapist referred to one patient's level of alcohol use that was coded as occasional by the therapist and moderate by myself. Due to the high inter-rater reliability and the importance of these indicators in the present study, all measures of low self-control were retained.

The employment of several independent behavioral indicators of self-control represents a significant departure from measures used in previous tests of the General Theory of Crime. With the exception of Keane's (1993) work, most empirical studies measure self-control using dimensions on a personality scale (Arneklev, Grasmick, & Tittle, 1993; Brownfield and Sorenson, 1993; Grasmick, Tittle, Bursik, & Arneklev, 1993; Forde and Kennedy, 1997; Polakowski, 1994). Hirschi and Gottfredson (1993) argue that this conceptualization is "psychologically deterministic" and is *not consistent with their theory*. Instead, Hirschi and Gottfredson (1993) claim the best indicators of self-control are the behaviors which self control predicts. I used the behavioral indicators described above in an attempt to satisfy Hirschi and Gottfredson's (1993) suggestions for testing the General Theory of Crime. Zero order correlations for measures of self-control are shown in Table 5 (see Table 5 below).[4]

Table 5

Zero-order Correlations Among Indicators of Self-Control

		1	2	3	4	5	6	7	8	9	10	11
1.	**fail**	.....	.32***	.01	.16*	.21**	.05	.04	.10	.13	-.02	-.02
2.	**quit**	.32***	.....	-.06	.13*	.27***	.08	.01	.06	.03	.16	.16
3.	**expelled**	.01	-.06	.....	.77***	.23***	.18**	.24***	.16*	.13*	.21*	.20
4.	**trouble**	.16*	.13*	.77***	.....	.36***	.23***	.26***	.18**	.22***	.23***	.21*
5.	**jobins**	.21**	.27***	.23***	.36***	.....	.33***	.38***	.36***	.18**	.31***	.32**
6.	**alcuse**	.05	.08	.18**	.23***	.33***	.....	.44***	.38***	.15*	.60***	.36***
7.	**sdruguse**	.04	.01	.24***	.26***	.38***	.44***	.....	.70***	.14*	.18*	.44***
8.	**hdruguse**	.10	.06	.16*	.18**	.36***	.38***	.70***	.....	.17**	.19*	.35***
9.	**prescrip**	.13	.03	.13*	.22***	.18**	.15*	.14*	.17**	.....	.24**	.23*
10.	**MAST**	-.02	.16	.21*	.30***	.31***	.60***	.18*	.19*	.24**	.....	.34**
11.	**DAST**	-.02	.15	.20	.21*	.32**	.36***	.44***	.35***	.23*	.34**	.....

NOTE: fail = whether the offender failed a grade; quit = whether the offender quit school; expelled = expulsion from school on at least one occasion; trouble = level of trouble while at school; jobins = level of job instability; alcuse = level of alcohol use; sdruguse = level of soft drug use; hdruguse = level of hard drug use; prescrip = whether the offender abuses prescription drugs; MAST = MAST score; DAST = DAST Score.

*$p \leq .05$; **$p \leq .01$; ***$p \leq .001$ (two-tailed)

Zero-order Correlations for Self-Control

The correlation matrix presented in Table 5 indicates that some behavioral measures of self-control are more highly inter-correlated than others. For example, in terms of early school measures, failing a grade is moderately associated with quitting school (r = .32), and weakly associated with getting in trouble at school (r = .16). However, failing a grade in school is only related to one indicator of self-control in adulthood (i.e., job instability, r = .21). Similarly, quitting school is only positively correlated with getting in trouble (r = .13) at school, and showing job instability in adulthood (r = .27). Failing a grade and quitting school may be more indicative of factors other than self-control (e.g., level of intelligence, family circumstances, etc.).

In contrast, being expelled from school and getting in trouble at school are highly intercorrelated (r = .77) and are positively associated with all adult measures of low self-control except DAST scores (e.g., the association between trouble in school and job instability is r = .36, while association between being expelled and having an unstable job history is r = .23). Being expelled from school and getting into trouble at school serve as better early indicators of self-control than quitting school or failing a grade.

I expected measures of drug use and indicators of alcohol use to be moderately to highly inter-correlated and these expectations were confirmed by the analysis. For example, the largest correlation is between hard drug use and soft drug use (r = .70). Not surprisingly, level of alcohol use is also positively associated with alcohol abuse (r = 60). Alcohol use is also moderately associated with the use of soft drugs (r = .44) as well as drug abuse r = . 36 (measured by DAST scores).

Job instability is significantly related to all other measures of self-control. Job instability is positively associated with failing a grade (r = .21), quitting school (r =. 27), being expelled from school (r = .23), getting into trouble at school (r = .36), level of alcohol use (r = .33), alcoholism (r = .31), level of soft (r = .38) and hard (r = .36) drug use, prescription drug abuse (r = .18), and drug addiction (r = .32).

Dependent Measures

Treatment Completion

In order to examine the effects of self-control on a dependent variable that is "functionally distinct" from crime, Phoenix Program *treatment completion* serves as a major dependent variable in this study. Treatment completion can be viewed as a measure of delay of gratification because the benefits of treatment (e.g., control over one's sexual impulsivity) only become apparent after a fairly lengthy commitment on part of the patient who must forego immediate pleasure (i.e., patients' activities are highly structured and monitored while in treatment) and endure discomfort (e.g., the patient must participate in group psychotherapy, undergo extensive interviewing, etc.) to obtain benefits from treatment several months later. Treatment completion is measured in "yes" or "no" dichotomous categories.

Approximately half of the sample (N = 119) did not complete the sex offender treatment program at Alberta Hospital Edmonton. There were four major reasons for treatment termination including: inadequate motivation, patient request, patient release, and unacceptable behavior. Patients are considered to be unmotivated towards treatment if they do not participate in group therapy (e.g., they do not speak during group therapy sessions, they do not complete their homework assignments from a previous therapy session, they do not attend group therapy sessions, etc.). Active participation is a mandatory requirement for undergoing treatment in the Phoenix Program (Kirkby, 1996). Fifty-five percent of the non-completers (N = 65) were expelled from the Phoenix Program due to lack of motivation.

Recall that sex offender treatment in the Phoenix Program at Alberta Hospital Edmonton is voluntary. For one quarter of the non-completers (N = 29), treatment was terminated on the basis of patient requests. In such instances, patients chose to return to prison rather than continue with treatment.

In addition to inadequate motivation and patient requests, some individuals terminated treatment because they reached their prison release date. Five percent of the non-completers (N = 6) ended treatment when they became eligible for release. Finally, sixteen percent of treatment non-completers (N = 19) were sent back to prison as a result of unacceptable behavior. Unacceptable behavior pertains to actions that violate program rules including contacting a victim from the sex offence, engaging in any kind of sexual act, taking non-prescription drugs, consuming alcohol, behaving in a violent manner or threatening to use violence while in the hospital setting (Studer, Reddon, Roper, & Estrada, 1996).

Recidivism[5]

Indicators for post-treatment criminal behaviors are also used as dependent measures in this study. *Recidivism* is examined as the total number of post-discharge re-arrests for any kind of crime. *Any kind of crime* is measured as the total number of re-arrests for all types of crime taken together (e.g., sex offences, drug charges, property crimes, etc.).

In addition, recidivism is examined as the total number of re-arrests for sub-categories of crime (*sexual, violent, property, alcohol or drugs, parole*, and *other*). *Sexual* recidivism includes all sex offences (e.g., incest, sexual assault, sexual interference, invitation to sexual touching, etc.). *Violent* recidivism includes all violent offences that are not sexual in nature (e.g., assault, manslaughter,). *Property* recidivism includes crimes of theft of property (e.g., breaking and entering, theft over $1000, possession of stolen goods, etc.). *Alcohol or drug* recidivism involves re-offences related to the use of drugs or alcohol (e.g., Narcotic Control Act offences such as possession for the purpose of trafficking, impaired driving charges, etc.). *Parole* recidivism includes all types of parole violations (e.g., failing to comply with parole conditions). *Other* recidivism is measured as the total number of re-arrests for all offences not already classified as sexual, violent, property, alcohol or drugs, and parole violations.

Recidivism sources include the Government of Alberta Correctional Management Information System (C.O.M.I.S.) and the Canadian Police Information Centre (C.P.I.C.), both of whom send reports to Alberta Hospital to aid in program evaluation.

Recall that the sample consists of sex offenders whose treatment ended at least 2 years prior to the most recent C.P.I.C. update (conducted in 1995). The two-year interval between treatment completion and C.P.I.C. update ensures that the recidivism risk period begins close to the time when these patients are released into the community without supervision. Any interval shorter than this would bias the data in favor of very low recidivism as the majority of offenders would still be in the prison system and thus be unable and/or highly unlikely to reoffend.

Summary of Sample Composition and Measures

In summary, the sample consists of 240 adult males who underwent sex offender treatment in the Phoenix Program at Alberta Hospital Edmonton. Sex offenders are classified as rapists if their victims were 14 years of age or older, pedophiles if their victims were under the age of 14 and not family members, and incest offenders if their victims were family members less than 14 years old.

Independent measures include offender characteristics (i.e., age, educational attainment, marital status, ethnicity, number of prior offences, number of prior sex offences, length of prison term, length of probation term, length of time in treatment, post-discharge probation term) and indicators of self-control (i.e., failed a grade, quit school, expelled from school, level of trouble at school, job instability, level of alcohol use, alcoholism (MAST), drug abuse (DAST), level of soft drug use, level of hard drug use, and prescription drug abuse.

Dependent measures include types of recidivism (any kind of crime, sexual recidivism, violent recidivism, property recidivism, alcohol or drug recidivism, parole recidivism, and other forms of recidivism) as well as treatment completion.

Chapter 4 presents a descriptive analysis of levels of self-control in incest offenders, pedophiles, and rapists.

CHAPTER IV: SELF-CONTROL: A DESCRIPTIVE ANALYSIS

Indicators of Self-Control

The first hypothesis tested in this study predicts variability in self-control across sex offenders. Because a control group is not used as a basis of comparison in this study, it is not possible to examine whether sex offenders have lower levels of self-control than non-criminal populations. Despite this shortcoming, the present study can describe levels of self-control within a sample of convicted sex offenders. To examine levels of self-control in sex offenders, descriptive statistics (i.e., means, standard deviations, percentages, etc.) are calculated for each measure of self-control by offender type.

In addition to describing self-control in a sex offender sample, the present study examines variability in self-control across sex offender subgroups. In this case, indicators of self-control are presented for rapists, incest offenders and pedophiles.

Descriptive Statistics

Tables 6-10 show how self-control is distributed across sex offender types. Table 6 depicts school trouble by offender type (i.e., incest offender, pedophile, rapist). Table 7 shows job instability by offender type, Table 8 presents soft drug use by offender type, Table 9 depicts hard drug use by offender type, and Table 10 describes alcohol use across sex offender sub-groups.

Table 6

School Trouble by Offender Type

	None	Low	Moderate	High
	N (%)	N (%)	N (%)	N (%)
Offender Type				
Incest Offender (N = 104)	42 (40.4)	29 (27.9)	15 (14.4)	18 (17.3)
Pedophile (N = 44)	19 (43.2)	15 (34.1)	6 (13.6)	4 (9.1)
Rapist (N = 71)	10 (14.1)	22 (31.0)	20 (28.2)	19 (26.8)

Results shown in Table 6 indicate that self-control varies considerably within sex offenders. For example, approximately 40% of incest offenders had no trouble with truancy or fighting while 28% of this sub-group noted at least one major source of trouble, 14% reported at least two sources of trouble, and 17% admit to having been expelled from school on at least one occasion (see Table 6). This finding is not predicted by the General Theory of Crime, which assumes that all criminals have very low levels self-control. Gottfredson and Hirschi's theory would predict that all offender should have a history of moderate to high school trouble (consistent with their tendency towards criminality). The results shown in Table 6 suggest that self-control may be highly variable across offenders, with some showing more self-control than others in given situations such as early school behaviors.

Table 6 also reveals a pattern of findings across sex offender sub-types. A Chi-Square test for independence showed that school trouble was associated with sex offender type, X^2 (6, N = 219) = 21.15, p = .002. In this case, 55% of rapists show moderate to high levels of trouble in school, relative to only 32% of incest offenders, and 23% of pedophiles (refer to Table 6). A difference in self-control across sex offender types implies that sex offenders differ in fundamental ways. This contention opposes the General Theory of Crime which claims there is no theoretical basis for distinguishing among sex offender types.

Table 7 shows variations in job instability among sex offender types.

Table 7

Job Instability by Offender Type

Offender Type	None	Low	Moderate	High
	N (%)	N (%)	N (%)	N (%)
Incest Offender (N = 100)	27 (27.0)	24 (24.0)	4 (4.0)	45 (45.0)
Pedophile (N = 47)	16 (34.0)	12 (25.5)	1 (2.1)	18 (38.3)
Rapist (N = 76)	17 (22.4)	9 (11.8)	2 (2.6)	48 (63.2)

Although not significant using a Chi-Square test, Table 7 shows a pattern of findings for job instability that is similar to the results for early school trouble. Specifically, a high proportion of rapists (63.2%) have a very unstable employment history indicating they have either never been employed, have quit at least two forms of employment for reasons other than pursuing a more viable alternative, have been fired on at least two occasions, or have held in excess of 20 short-term jobs (excluding seasonal positions).

In contrast, incest offenders are just as likely to have a highly unstable job history (45.0%) as they are to have a very stable job history in which they worked full or part-time for the same employer for a duration in excess of five years (51.0%) (see Table 7). Incest offenders' job histories tend to resemble pedophiles' job histories, except pedophiles are slightly less likely (7%) than incest offenders to have a history of high job instability (see Table 7).

Table 8 indicates levels of soft drug use among incest offenders, pedophiles and rapists.

Table 8

Soft Drug Use by Offender Type

	None	Low	Moderate	High
	N (%)	N (%)	N (%)	N (%)
Offender Type				
Incest Offender (N = 106)	49 (46.2)	12 (11.3)	19 (17.9)	26 (24.5)
Pedophile (N = 50)	28 (56.0)	5 (10.0)	4 (8.0)	13 (26.0)
Rapist (N = 80)	25 (31.3)	13 (16.3)	5 (6.3)	37 (46.3)

Results shown in Table 8 for soft drug use mirror the pattern of findings for trouble in school and job instability by offender type. Self-reported histories of soft drug use in sex offenders are associated with offender type, X^2 (6, N = 236) = 19.47, p = .003. Rapists are more likely to use soft drugs such as hashish or marijuana relative to incest offenders and pedophiles. The majority of rapists (69%) claim they have at least tried soft drugs compared to 51% of incest offenders and only 44% of pedophiles. Moreover, close to half of the rapists (46.3%) maintain a high level of soft drug use while only one-quarter of incest offender or pedophiles engage in soft drug use at such a high frequency.

Again the descriptive results for an indicator of self-control have implications for the General Theory of Crime. Specifically, self-control varies in predictable ways within a group of known criminals. Rapists have lower levels of self-control relative to incest offenders and child molesters.

Table 9 pertains to hard drug use by sex offender type.

Table 9

Hard Drug Use by Offender Type

	None	Low	Moderate	High
	N (%)	N (%)	N (%)	N (%)
Offender Type				
Incest Offender (N = 105)	72 (68.6)	11 (10.5)	12 (11.4)	10 (9.5)
Pedophile (N = 50)	37 (74)	3 (6.0)	3 (6.0)	7 (14.0)
Rapist (N = 78)	45 (57.7)	6 (7.7)	12 (15.4)	15 (19.2)

Although not statistically significant, the pattern of findings for hard drug use by sex offender type resembles results for the other indicators of self control. As shown in Table 9, 42% of rapists report use of hard drugs such as cocaine or heroin compared to only 31% of incest offenders and 26% of pedophiles, X^2 (6, N = 233) = 7.70, p = n.s. In terms of heavy drug use, 19% of rapists claim they are addicted to hard drugs or use hard drugs at a high frequency. The direction of these findings corresponds to the earlier results presented for soft drug use, job instability and trouble in school, building the case for stable differences in self-control across sex offender sub-groups.

Table 10 shows how alcohol use is distributed among incest offenders, pedophiles and rapists (see Table 10).

Table 10

Alcohol Use by Offender Type

	None	Low	Moderate	High
	N (%)	N (%)	N (%)	N (%)
Offender Type				
Incest Offender (N = 108)	8 (7.4)	26 (24.1)	26 (24.1)	48 (44.4)
Pedophile (N = 50)	4 (8.2)	16 (32.7)	5 (10.2)	24 (49.2)
Rapist (N = 82)	5 (6.3)	10 (12.5)	14 (17.5)	51 (63.8)

As shown in Table 10, all sex offenders tend to use alcohol on occasion. However, rapists are more likely to be alcoholics, with 64% admitting to a high level of alcohol abuse relative to less than half of the incest offenders (44%) and pedophiles (49%), X^2 (6, N = 237) = 13.16, p = .04.

The pattern of findings for alcohol consumption is consistent with all of the measures of self-control presented thus far. Rapists have lower levels of self-control relative to incest offenders and pedophiles. Rapists are more likely to get into trouble in school (e.g., get into fights, be expelled) and are less likely to maintain stable employment relative to incest offenders and pedophiles. In addition, rapists are more likely to use soft drugs like marijuana or hashish and they are more likely to use hard drugs like cocaine or heroin relative to child molesters. Similarly, rapists report higher levels of alcoholism relative to child molesters. The consistency in this pattern of findings suggests that the variability of self-control is manifest in predictable ways across sex offenders (i.e., with rapists showing lower levels of self-control relative to incest offenders and pedophiles).

Table 11 summarizes dichotomous measures of self-control (failed a grade, school expulsion, quit school, used drugs, used soft drugs, used hard drugs, used alcohol, and abused prescriptions) across offender types (i.e., rapists, pedophiles, incest offenders). Used soft drugs and used hard drugs are also included in Table 11 as dichotomous measures created by collapsing level of use categories (1-3) into one condition representing use (coded 1 = yes) (while leaving the 0 category to represent no use of drugs). Dichotomous measures for soft drug use and hard drug use are also combined to reflect use of any illegal drug (i.e., used drugs where 1 = yes; 0 = no).

Table 11

Other Self-Control Measures by Offender Type

	Fail	Expelled	Quit	Used Drugs	Soft Drugs	Hard Drugs	Alcohol	Prescrip
Offender Type	N (Total) %	N (Total) %	N (Total) %	N (Total) %	N (Total) %	N (Total) %	N (Total) %	N (Total) %
Incest Offender	43 (102) 42.4	17 (105) 16.2	73 (104) 70.2	59 (107) 55.1	58 (106) 54.7	32 (108) 30.5	100 (108) 92.6	5 (106) 4.7
Pedophile	17 (47) 36.2	4 (47) 8.5	32 (46) 69.6	21 (50) 42.0	21 (50) 42.0	13 (50) 26.0	45 (49) 91.8	3 (50) 6.0
Rapist	37 (72) 51.4	19 (74) 25.7	62 (77) 80.5	58 (81) 71.6	56 (80) 70.0	32 (78) 41.6	75 (80) 93.8	11 (79) 13.9

Although not all of the measures of self-control were associated with offender type, the percentages shown in Table 11 are all suggestive of much lower levels of self-control in rapists relative to incest offenders and pedophiles. For example, rapists were more likely (51.4%) to have failed a grade in school relative to incest offenders (42.4%) and pedophiles (36.2%). Similarly, rapists were more likely to have quit school (80.5%) relative to incest offenders (70.2%) and pedophiles (69.6%). In addition, rapists were more likely to have used hard drugs (41.6%) compared to incest offenders (32%) and pedophiles (26%). Moreover, rapists admitted to abusing prescription drugs (13.9%) at a higher frequency than incest offenders (4.7%) and pedophiles (6.0%).

Figure 1 shows differences in school expulsion by sex offender type.

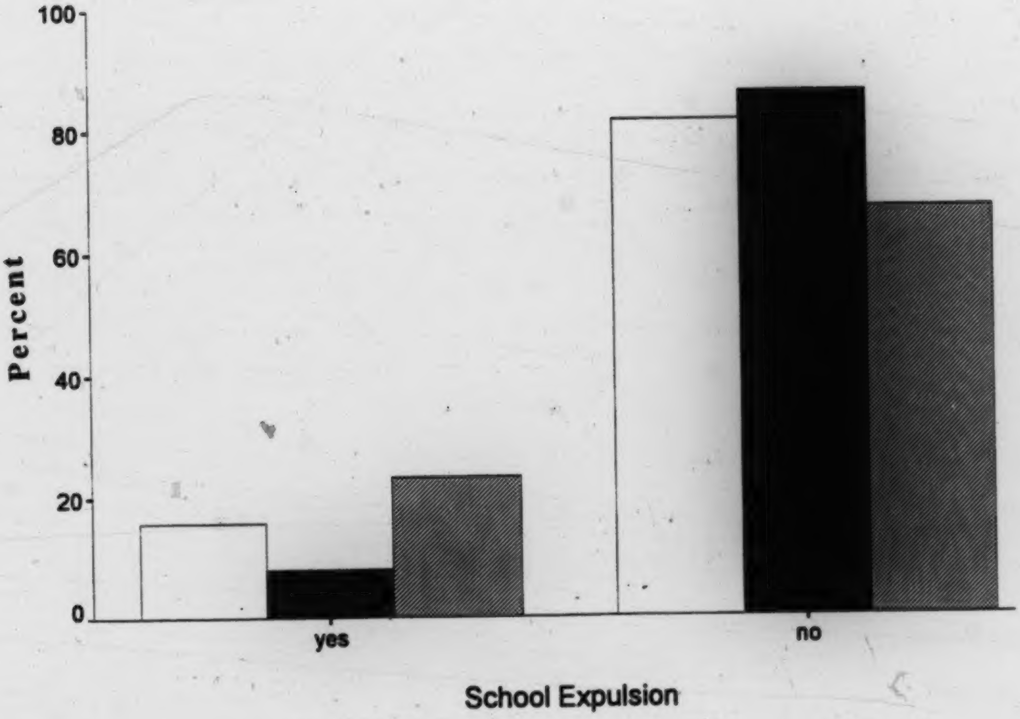

Figure 1
School Expulsion by Sex Offender Type

The results shown in Figure 1 show differences in the rate of school expulsion across sex offender sub-types. Rapists are more likely to be expelled from school on at least one occasion relative to incest offenders and pedophiles, X^2 (2, 226) = 6.12, p = .05. Twenty-six percent of the rapists in this sample experienced school expulsion relative to only 16% of incest offenders, and 8.5% of pedophiles.

Again, results for measures of self-control show variation across sex offender sub-types, with rapists displaying lower levels of self-control than incest offenders who have less self-control than pedophiles.

Figure 2 depicts differences in use of illegal drugs across rapists, incest offenders, and pedophiles.

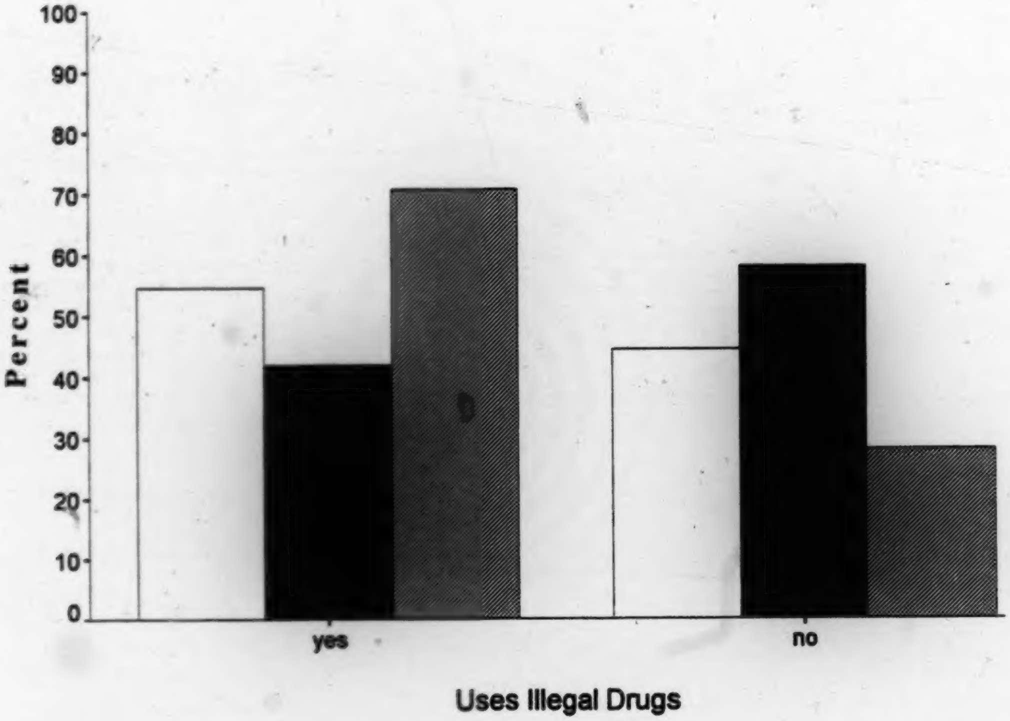

Figure 2
Illegal Drug Use by Sex Offender Type

Figure 2 shows that 72% of rapists have used some kind of illegal drug (e.g., hashish, cocaine, etc.) on at least one occasion compared to 55% of incest offenders and 42% of pedophiles. A Chi-Square test for independence indicated that use of illegal drug is related to sex offender type,X^2 (2, 238) = 11.77, p = .003.

The pattern of findings for use of illegal drugs is consistent to the findings for school expulsion. In the case of illegal drug use, rapists show lower levels of self-control than incest offenders who have less control than pedophiles.

Figure 3 depicts soft drug use across sex offender sub-groups.

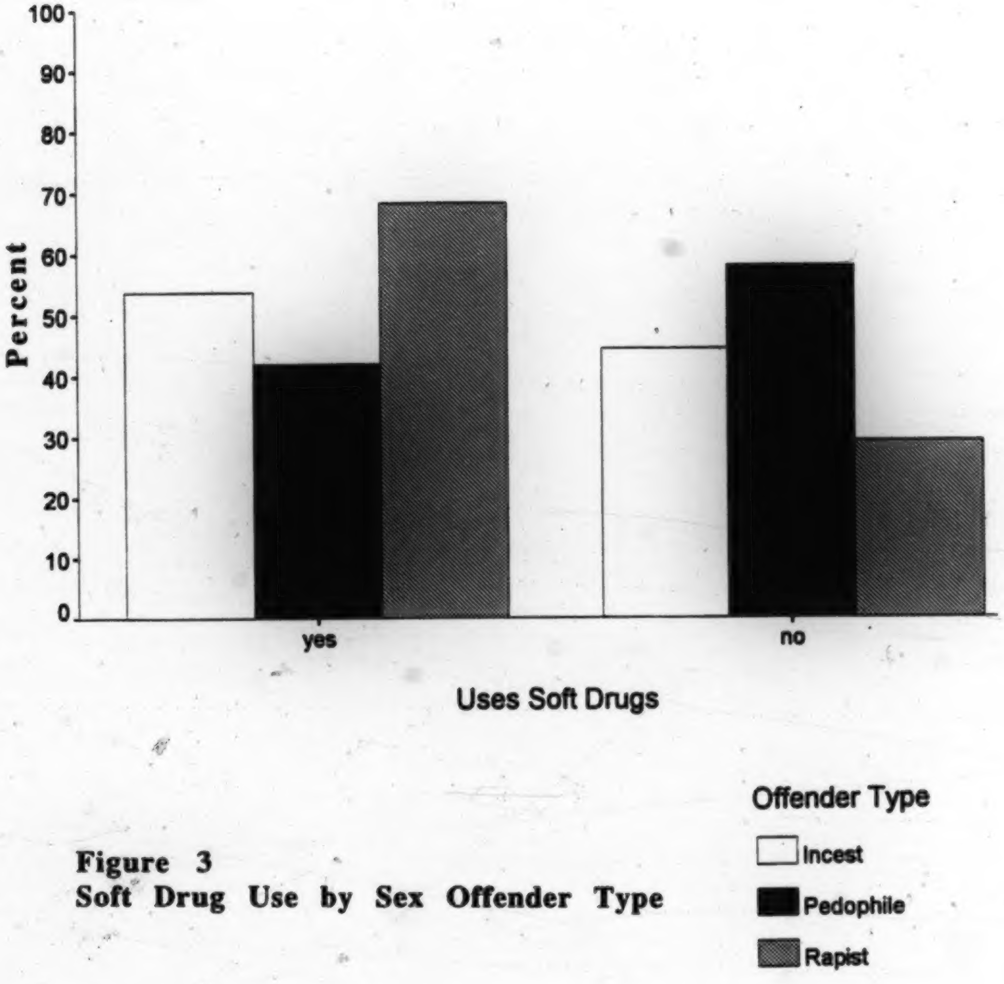

Figure 3
Soft Drug Use by Sex Offender Type

The findings shown in Figure 3 indicate that rapists are more likely to use soft drugs than incest offenders and pedophiles, X^2 (2, 236) = 10.34, p = .006.

Figures 1, 2, and 3 show that of the sex offender types, rapists have the lowest levels of self-control. Figure 1 shows that a higher percentage of rapists (25.6%) were expelled from school relative to incest offenders (16.2%) and pedophiles (8.5%). In addition, rapists were more likely to use illegal drugs (71.6%) than incest offenders (59.0%) and pedophiles (42.0%) (see Figure 2). Similarly, Figure 3 indicates that a higher proportion of rapists (70.0%) use soft drugs relative to incest offenders (58.0%) and pedophiles (42.0%). These results are consistent with the earlier findings for school trouble, job instability, soft drug use, hard drug use, and consumption of alcohol among sex offenders.

Table 12 depicts DAST and MAST test scores by offender type (see Table 12).

Table 12

Drug and Alcohol Screening Test Scores by Offender Type

	Drug Screening (DAST)	Alcohol Screening (MAST)
Offender Type	Mean (SD) (N)	Mean (SD) (N)
Incest Offender	3.72 (6.09) (39)	13.32 (11.57) (55)
Pedophile	3.21 (4.90) (14)	13.69 (14.55) (26)
Rapist	6.03 (5.98) (35)	24.30 (19.81) (46)

Analysis of variance (ANOVA) was employed to examine the differences in mean drug and alcohol screening scores across sex offender types. There was a main effect of sex offender type on the Michigan Alcohol Screening Test scores for the sample, F (2, 124) = 7. 11, p = .0012 (see Figure 4).

Figure 4 shows that rapists have a much higher level of alcohol abuse (M = 24.30, SD = 19.81) relative to incest offenders (M = 13.32, SD = 11.57) and pedophiles (M = 13.69, SD = 14.55) whose scores did not differ at the .05 level according to a post-hoc comparison of the means procedure appropriate for use with unequal cell frequencies (refer to Scheffe, 1953; 1959).

ANOVA results indicated no significant difference across groups on mean scores for the Drug Abuse Screening Test, F (2, 85) = 1.86, p = n.s.

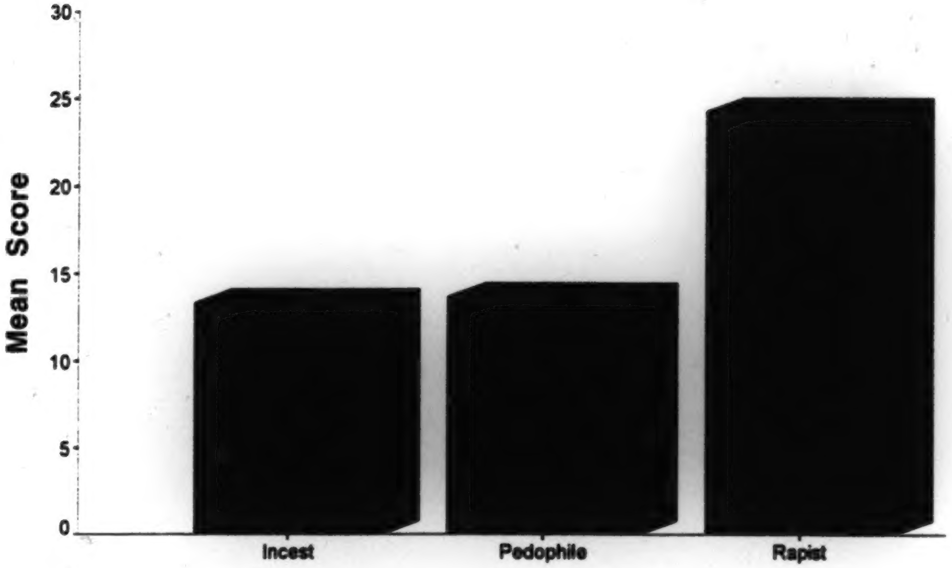

Figure 4
MAST Scores by Offender Type

Summary and Conclusions

The first hypothesis tested in this study predicted that levels of self-control would vary within criminals. In other words, the present study views self-control as variable that ranges on some continuum in criminals (e.g., from very low to moderate). This hypothesis contradicts the General Theory of Crime which describes self-control as an attribute that does not vary within criminals (i.e., all criminals have low self-control).

Taken together, the descriptive results indicate variability in levels of self-control in this sample. For example, in terms of school trouble, 71 sex offenders (or 32%) reported no problem while at school, while another 66 offenders (i.e., 30%) reported a low level of school trouble, 41 (or 19%) claimed a moderate level of school trouble, and 41 offenders (or 19%) reported a high level of school trouble.

Similarly, job instability as an indicator of self-control was variable across sex offenders, where 27% showed no job instability, 20% showed a low level of job instability, 3% displayed a moderate level of job instability, and 50% reported a history of high job instability. For all measures of self-control, there is considerable variation within sex offenders. This finding suggests that the General Theory of Crime needs to be respecified to account for variations in self-control within criminals. One way to accomplish this is to define self-control as a variable that operates on a continuum, rather than treat it as an attribute.

Although the results pertaining to the first hypothesis contradict an assumption in Gottfredson and Hirschi's theory, the findings lend weak support to the General Theory of Crime's claim that self-control is a stable construct. That is, sex offenders show indications of self-control in early behaviors (e.g., a high level of school trouble) and this tendency is representative of later behaviors (e.g., job instability). Further, levels of self-control are quite consistent across behavioral indicators (i.e., many sex offenders have unstable job histories and many sex offenders use soft drugs). Hypotheses 2, 3, and 4 focus on the stability in manifestations of self-control over time (discussed in Chapter 5).

Finally, one other pattern of findings reported in this chapter poses some problems for Gottfredson and Hirschi's General Theory of Crime. The consistency in differences in levels of self-control between rapists, pedophiles, and incest offender sub-groups was not predicted by the General Theory of Crime. Findings for all measures of self-control suggest that rapists have lower levels of self-control relative to incest offenders, who have lower levels of self-control than pedophiles. Chapters 6 focuses on versatility in manifestations of self-control, exploring the issue of offence specialization in more detail.

CHAPTER V: SELF-CONTROL AS A STABLE CONSTRUCT

The General Theory of Crime suggests that manifestations of low self-control are present very early on in individual histories and that individual differences in low self-control are stable over time (Gottfredson and Hirschi, 1990). In addition, the General Theory of Crime contends that low self-control is versatile in that it produces criminal, deviant, and theoretically analogous behaviors (i.e., ones that result in immediate pleasure but little in the way of long-term gain). Figure 5 provides a conceptual model of Gottfredson and Hirschi's General Theory of Crime.

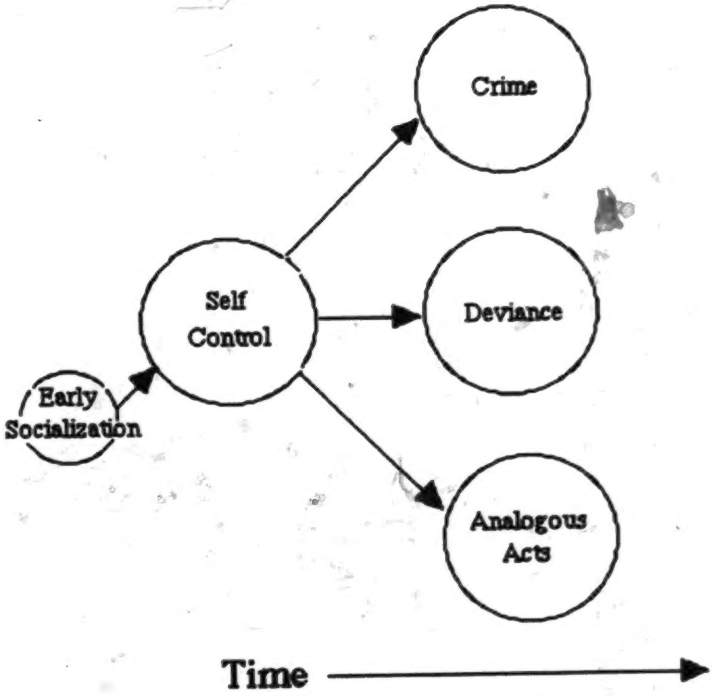
Crime
Self Control
Deviance
Early Socialization
Analogous Acts
Time

Figure 5
A conceptual model of Gottfredson and Hirschi's (1990) general theory of crime

The Stability Postulate

To examine the stability of self control over time (Hypotheses 2, 3, and 4), bivariate correlations were calculated between measures of self-control pertaining to offenders' early school behavior (e.g., level of trouble in school) and measures of self-control corresponding to behaviors in adulthood (e.g., level of job instability). In addition, indicators for self-control in adulthood (e.g., job instability) were correlated with treatment completion and the various types of recidivism (e.g., recidivism for a sexual offence). Since these correlates measure effects at different stages of a person's life, they can be interpreted as a measure of the impact of self-control over time (see Figure 6).

As shown in Figure 6, the key concept (i.e., self-control) is indicated by several behavioral measures which correspond to one of four time intervals. Time 1 consists of measures pertaining to early school years (quit school, failed a grade, expelled from school, and level of trouble in school). Time 2 includes measures of self-control for offender behavior from late adolescence through adulthood ending with incarceration for sex offending (job instability, level of alcohol use, level of hard drug use, level of soft drug use, prescriptive drug abuse, DAST score, and MAST score). Time 3 pertains to the dichotomous measure for treatment completion and Time 4 includes all of the post-treatment recidivism measures (reoffences of any kind, recidivism for a sexual offence, recidivism for a non-sexual/violent offence, a property crime, a parole violation, an alcohol or drug-related offence, and any other type of offence) (see Figure 6).

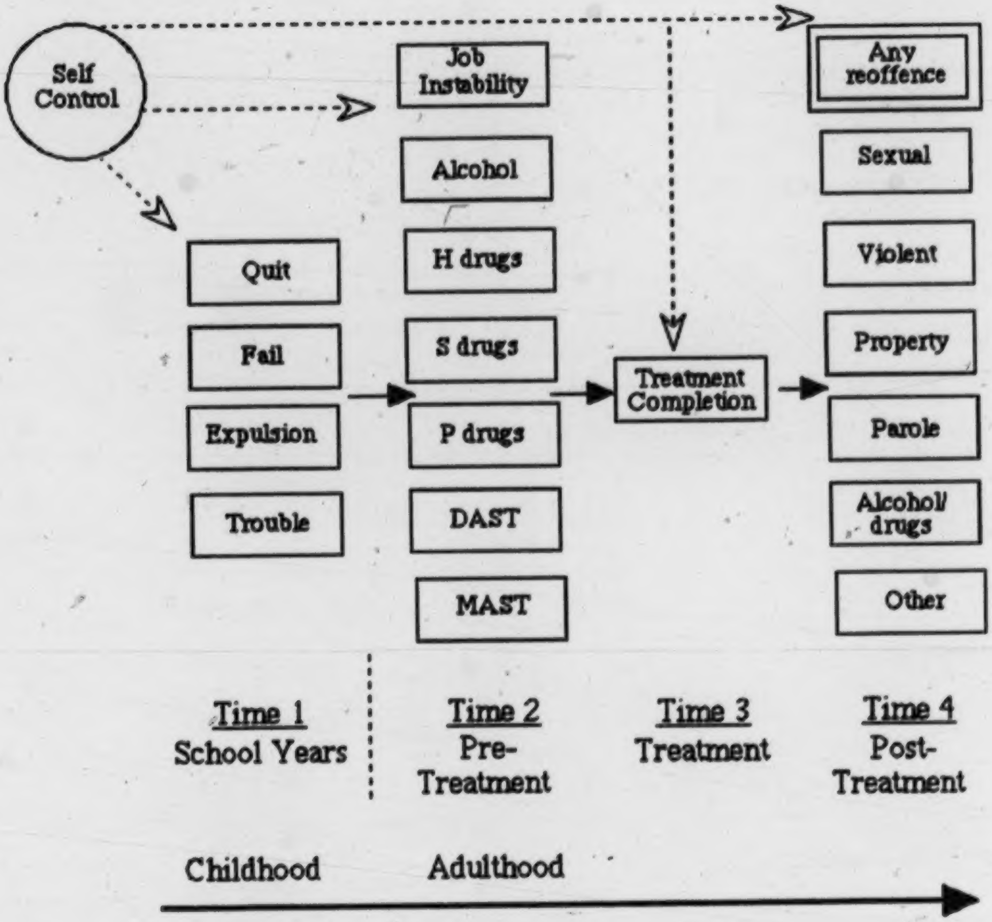
Self Control
Job Instability
Alcohol
H drugs
S drugs
P drugs
DAST
MAST
Quit
Fail
Expulsion
Trouble
Treatment Completion
Any reoffence
Sexual
Violent
Property
Parole
Alcohol/ drugs
Other
Time 1
School Years
Time 2
Pre-Treatment
Time 3
Treatment
Time 4
Post-Treatment
Childhood
Adulthood

Figure 6
A theoretical model of stability in self-control over time

Tables 13-18 contain correlations among self-control measures over time. Specifically, Table 13 includes bivariate correlations for Time 1 measures (quit, fail, expulsion, and trouble) by Time 2 measures (job instability, alcohol, hard drugs, soft drugs, prescription drug abuse, DAST, and MAST). Table 14 shows correlations between Time 1 measures and treatment completion (Time 3). Table 15 portrays the correlations between Time 1 measures and Time 4 measures (any reoffence, sexual recidivism, violent recidivism, property recidivism, parole recidivism, alcohol/drugs recidivism, any other reoffence). Table 16 shows the correlations between Time 2 measures (job instability, alcohol, hard drugs, soft drugs, prescription drug abuse, MAST, and DAST) by Time 3 (treatment completion). Table 17 includes Time 2 and Time 4 measures (any reoffence, sexual recidivism, violent recidivism, property recidivism, parole recidivism, alcohol/drug recidivism, any other reoffence). Finally, Table 18 shows the correlations between Time 3 (treatment completion) and Time 4 measures (recidivism).

Table 13

Time 1 and Time 2 Measures. Correlation Matrix Depicting Relationships Among Time 1 (Quit, Fail, Expulsion, and Trouble) and Time 2 Measures (Job Instability, Alcohol, Hard Drugs, Soft Drugs, Prescription Drug Abuse, MAST and DAST)

	Quit	Fail	Expulsion	Trouble
Job Instability	.27***	.21***	.23***	.36***
Alcohol	.07	.05	.18**	.23***
Hard Drugs	.06	.10	.16**	.17**
Soft Drugs	.01	.04	.24***	.26***
Prescription Drugs	.03	.13*	.13*	.22***
MAST	.16*	-.02	.21*	.30***
DAST	.14	-.02	.20*	.21*

NOTE *$p \leq .05$; **$p \leq .01$; ***$p \leq .001$ (one-tailed).

Time 1 and Time 2 Measures

Examination of the results shown in Table 13 reveals several statistically significant relationships between measures of self-control in childhood (Time 1) and measures of self-control in adulthood (Time 2). The strongest correlation was between level of trouble in school and job instability (r = .36) suggesting that level of trouble in school is indicative of an inability to maintain steady employment in adulthood.

Quitting school was also positively associated with job instability in adulthood, r = .27). With the exception of job instability, quitting school was only weakly associated with one other indicator at Time 2. Quitting school was positively related to alcoholism (i.e, MAST scores, r = .16). Similarly, failing a grade was significantly related to job instability (r = .21). Failing a grade in school was also positively associated with prescription drug abuse in adulthood, r = .13.

Expulsion from school was significantly correlated with all measures of self-control in adulthood. Expulsion was positively associated with job instability (r = .23); level of alcohol use (r = .18); level of hard drug use (r = .16); level of soft drug use (r = .24); prescription drug abuse (r = .13); alcoholism (r = .21); and drug abuse (r = .20).

Trouble in school was also associated with all measures of self-control at Time 2. In addition to job instability, trouble in school was positively correlated with use of alcohol (r = .23); use of hard drugs (r = .17); use of soft drugs (r = .26); prescription drug abuse (r = .22); alcoholism (r = .30); and drug abuse (r = .21).

Theoretical Implications

Overall, the results for measures of self-control at Time 1 and Time 2 are supportive of the General Theory of Crime's stability postulate. A moderate correlation between trouble in school and an inability to maintain steady employment is consistent with Gottfredson and Hirschi's conception of criminality which rests on the assumption that the likelihood of committing criminal (and functionally equivalent acts) persists over time (p. 107). In this case, individuals who get into trouble in school as children are demonstrating a persisting inability to delay gratification and as a result, the same individuals should also engage in behaviors that interfere with long term commitments in adulthood (e.g., unstable employment histories). The General Theory of Crime would attribute the relationship between trouble in school and job instability to a lack of self-control. As Gottfredson and Hirschi note: "[People with low self-control] tend to be little interested in and unprepared for long-term occupational pursuits" (p. 89).

Although the findings are consistent with The General Theory of Crime, alternative explanations cannot be ruled out by these results. For example, trouble in school may be the end result of factors other than low self-control. Trouble in school in the form of fighting necessarily involves more than one individual. In this case, two or more children may be "labelled" as trouble makers regardless of who instigates the fight. If only one person acted as the aggressor, a lack of self-control can hardly be attributed to the victim. None-the-less, these types of acts which are considered "trouble in school" may result in academic failure for both children.

Academic failure can lead to all kind of other issues that are unrelated to low self-control (e.g., a lowered sense of self-esteem, tracking by teachers in the school system, etc.). Failed grades may limit job opportunities (i.e., school failure is suggestive of low academic qualifications) which can pose further implications for job instability (e.g., an employee may lack job-related skills). All of these relations can operate independent of an individual's level of self-control. Given these possibilities, it might be important to consider variables other than self-control in explanations for unstable job histories in adulthood.

For instance, a person with a low intellectual capacity may have very high self-control but still fail a few grades while in school. Again, as a result of low academic qualifications or a technical skill deficiency, the same individual may have difficulty obtaining or maintaining employment as an adult. Intelligence, irrespective of the level of self-control a person possesses, may account for associations between early school behaviors such as failing a grade and the inability to find or maintain steady employment in adulthood. Even Gottfredson and Hirschi (1990) concede that consistent with the image of low self-control, the "less intelligent person has fewer negative consequences to consider" (p. 95).

Table 14 contains a correlation matrix depicting relationships between Time 1 measures (Quit, Fail, Expulsion, and Trouble) and treatment completion (Time 3).

Table 14

Time 1 and Time 3 Measures. Correlation Matrix Depicting Relationships Between Time 1 measures (Quit, Fail, Expulsion, and Trouble) and Treatment Completion (Time 3)

	Quit	Fail	Expulsion	Trouble
Treatment Completion	-.16**	-.02	.07	.04

NOTE **p ≤ .01 (one-tailed).

Time 1 and Time 3 Measures

Table 14 depicts the relationships among Time 1 measures (i.e., quit school, failed a grade, expulsion from school, level of trouble in school) and Time 3 measures (i.e., treatment completion). The only statistically significant relationship is a negative relationship between quitting school and completing treatment, r = -.16. This means that quitting school is associated with treatment termination.

Theoretical Implications

Findings for indicators of self-control at Time 1 (school years) and Time 3 (treatment completion) are generally not supportive of Gottfredson and Hirschi's theory. The results do indicate a weak correlation between quitting school and treatment completion. However, terminating treatment, like quitting school may be more indicative of a range of factors that interact with self-control, or act independent of self-control to reduce the likelihood of completing treatment. For example, a shy patient may terminate treatment rather face discussing personal issues in the presence of other sex offenders who are encouraged to be confrontational.

Alternatively, a family-oriented patient may request that he be sent back to prison in order to be in a location that is more readily accessed by family members. These kinds of issues may operate independent of self-control, attenuating its effect on treatment completion.

Although the relationship between quitting school and terminating treatment can be viewed as a general lack of persistence for different forms of social training which is consistent with the General Theory of Crime's conceptualization of the nature of low self-control, we are left wondering why there is no correspondence between other school behaviors and treatment completion.

To the extent that self-control is the cause of both the delinquent behaviors in early school years and an inability to complete sex offender treatment as an adult, the General Theory of Crime predicts positive correlations between these measures. Failing a grade, being expelled from school, and trouble in school were not associated with treatment completion in this sample of sex offenders. The lack of correspondence between early and later manifestations of self-control is problematic for the General Theory of Crime's stability postulate, especially given Gottfredson and Hirschi's (1990) insistence that early school behaviors such as school performance and truancy are highly indicative of later actions (p. 106).

Table 15 is a correlation matrix depicting relationships between Time 1 (early school behaviors) and Time 4 (recidivism) measures (see Table 15).

Table 15

Time 1 and Time 4 Measures. Correlation Matrix Depicting Relationships Among Time 1 (Quit, Fail, Expulsion, and Trouble) and Time 4 Measures (Any Reoffence, Sexual Recidivism, Violent Recidivism, Property Recidivism, Parole Recidivism, Alcohol/Drug Recidivism, Any Other Reoffence).

	Quit	Fail	Expulsion	Trouble
Any Reoffence	.08	.05	.03	.11*
Sexual Recidivism	-.03	-.02	.01	-.04
Violent Recidivism	.07	.03	.05	.17**
Property Recidivism	.07	.10	.02	.10
Parole Recidivism	.10	.05	.10	.14*
Alcohol/Drug Recidivism	.10	.04	.03	.14*
Any Other Reoffence	.06	.02	.01	.06

NOTE $^*p \leq .05$; $^{**}p \leq .01$ (one-tailed).

Time 1 and Time 4 Measures

Table 15 shows correlations among early measures of self-control and measures of recidivism. The only early measure of self-control related to recidivism is trouble in school. Trouble in school is positively associated with reoffending following treatment in the Phoenix Program (r = .11). Specifically, trouble in school is weakly related to violent recidivism (r = .17); parole violations (r = .14); and alcohol or drug offences (r = .14).

Theoretical Implications

Similar to the findings for early measures of self-control and treatment completion, the results for indicators of self-control as predictors of recidivism show limited support for the General Theory of Crime's stability postulate. The only associations between early indicators of self-control and criminal recidivism in adulthood pertain to the level of trouble experienced while in school (i.e., number of times an offender skipped school, got into fights, etc.). Weak positive correlations indicate that the greater the level of trouble experienced in school, the higher the likelihood of committing crimes in adulthood.

Self-control provides a viable explanation for the relationship between the level of trouble at school in the earlier stages of life and the commission of crimes in adulthood but it does not rule out alternative explanations. Closer inspection of the form of recidivism associated with trouble in school suggests that an aggressive tendency could explain the pattern of findings with equal credibility. Of the measure of recidivism, trouble in school was only associated with violent recidivism, parole recidivism, and alcohol/drug recidivism.

Getting into fights was a major contributor to an offender's level of trouble in school. Fighting is an aggressive action. The relationship between level of trouble in school and violent recidivism could be indicative of continuity in an aggressive response style. Aggression can also be viewed in terms of defiance or disobedience which may be just cause to revoke parole while under the care of correctional services. Finally, the use of drugs and alcohol are common correlates of the commission of violent crimes, suggesting that aggressive individuals are also likely to use alcohol and drugs. At the very least, aggression provides an equally logical explanation for the relationship between trouble in school and specific forms of recidivism.

A unique feature of the General Theory of Crime (and one of its supposed greatest strengths according to Gottfredson and Hirschi) is the assertion that crime can be predicted from low self-control at any early stage of life (see Gottfredson and Hirschi, 1990: 119). Moreover, to the extent that low self-control generalizes across situations, the strength of the association between quitting school and any kind of recidivism should be equal to the association between trouble in school and any kind of recidivism. The use of multiple indicators of self-control characteristic of early school years provides a viable means for assessing the merit of these contentions.

The findings of the correlational analysis show no support for either contention. Three out of the four early indicators of self-control (i.e., quitting school, failing a grade, and school expulsion) were not significantly related to recidivism. In developing the General Theory of Crime, Gottfredson and Hirschi specifically refer to dropping out of school, failing a grade, and truancy (which is often implicated in being expelled from school) as constituting readily identifiable indicators of self-control (p. 115). If low self-control is the root of all crime, then associations between early manifestations of self-control and subsequent criminal offences in adulthood are of upmost importance if the General Theory of Crime is to find validation through empirical tests.

In summary, Gottfredson and Hirschi seek to account for the stability in individual differences in offending over the life course through the development of a notion of stable differences self-control. However, operationalization of The General Theory of Crime's key concept as school-based delinquency (i.e., level of trouble in school as evidenced by getting into fights, getting expelled, skipping school, etc.) does not account for the commission of crimes in adulthood for this sample of sex offenders.

Table 16 is a correlation matrix showing relationships among Time 2 (adulthood measures of self-control) and treatment completion (Time 3) (see Table 16).

Table 16

Time 2 and Time 3 Measures. Correlation Matrix Depicting Relationships Between Time 2 measures (Job Instability, Alcohol, Hard Drugs, Soft Drugs, Prescription Drug Abuse, MAST and DAST) and Treatment Completion (Time 3)

	Treatment Completion
Job Instability	-.08
Level of Alcohol Use	.02
Level of Hard Drug Use	.02
Level of Soft Drug Use	.09
Prescription Drug Abuse	-.09
MAST Score	-.03
DAST Score	.19*

NOTE: *p ≤ .05 (one-tailed)

Time 2 and Time 3 Measures

As shown in Table 16, the only significant relationship was an unexpected weak positive correlation between DAST scores and treatment completion. This finding suggests that drug abusers are slightly more likely to complete treatment. However, only 88 of the 240 sex offenders in this sample completed the Drug Abuse Screening Test. Since approximately half the offenders complete treatment, it may the case that most of the individuals who completed a DAST also completed treatment. In this case, the association between DAST scores and treatment completion is not based on drug addiction affecting likelihood of treatment completion. The other measures of drug use were more complete for the sample (e.g., prescription drug abuse had only 5 missing cases, soft drug use had 4 missing cases, and hard drug use had 7 missing cases) but were not related to treatment completion.

Theoretical Implications

The unanticipated correlation between drug abuse and treatment completion is likely an artifact of methodology (as noted above), rather than a discovery with major implications for the General Theory of Crime's major postulates. In any event, the results suggest that the likelihood of completing treatment increases with higher levels of drug abuse. The General Theory of Crime would have particular difficulty reconciling this finding by claiming that drug use is one of the many versatile ways in which self-control manifests itself. Even given the versatility in criminal and functionally equivalent outcomes (such as treatment termination), sex offenders should be likely to both use drugs and end treatment with a high frequency. This would produce a negative correlation between drug use and treatment completion, rather than the positive one reported here.

Table 17 is a correlation matrix depicting relationships among Time 2 (adult measures of self-control) and recidivism (Time 4) (see Table 17).

Table 17

Time 2 and Time 4 Measures. Correlation Matrix Depicting Relationships Between Time 2 measures (Job Instability, Alcohol, Hard Drugs, Soft Drugs, Prescription Drug Abuse, MAST and DAST) and Time 4 Measures (Any Reoffence, Sexual Recidivism, Violent Recidivism, Property Recidivism, Parole Recidivism, Alcohol/Drug Recidivism, Any Other Reoffence).

	Job Instability	Alcohol	H Drugs	S Drugs	P Drugs	DAST	MAST
Any Reoffence	.18**	.16**	.14*	.16**	.03	.00	.20*
Sexual	.09	.10*	.04	.01	.01	.09	.11
Violent	.17**	.15**	.12*	.20***	-.02	.13	.18*
Property	.11*	.04	.10	.09	.01	-.08	-.01
Parole	.10	.11*	.20***	.12*	-.07	.21*	.28***
Alcohol/Drugs	.16**	.21***	.15**	.21***	.01	.04	.38***
Other	.13*	.11*	.09	.10	.06	-.02	.25**

NOTE *p ≤ .05; **p ≤ .01; ***p ≤ .001 (one-tailed).

Time 2 and Time 4 Measures

Table 17 shows the relationships between measures of self-control in adulthood and measures of recidivism. An examination of Table 17 reveals several significant correlations. *Job instability* is positively associated recidivism (r = .18), and more specifically, violent offences (r = .17); property crimes (r = .11); alcohol and drug offences (r = .16); as well as other types of crime (r =.13).

Level of alcohol use is also associated with various forms of recidivism (r = .16) including: sexual crimes, r = .10; violent offences, r = .15; parole violations, r = .11; alcohol and drug offences, r = .21); and other crimes (r = .11).

Hard drug use is positively correlated with reoffending (r = .14), and more specifically, with violent crimes (r = .12); parole violations (r = .20); and alcohol or drug-related crimes (r = .15).

Similarly, *soft drug use* is associated with reoffending (r = .16), violent crimes (r = .20); parole violations (r = .12); and alcohol or drug-related crimes (r = .21).

Alcoholism (MAST scores) is also positively correlated with recidivism (r = .20), including: violent offences (r = .18); parole violations (r = .28); alcohol or drug crimes (r = .38) and other offences (r = .25).

Theoretical Implications

Correlational findings for the relationships between indicators of self-control in adulthood and measure of recidivism are supportive of the General Theory of Crime. For example, job instability, or the inability to maintain stable employment is positively related to the commission of violent crimes, property crimes, alcohol and drug crimes, and other forms of recidivism. The General Theory of Crime would attribute these associations to a lack of self-control.

People who lack self-control also lack the persistence needed to maintain stable employment (and similarly, higher educational pursuits). Further, individuals who lack self-control are also likely to lack the skills obtained through long-term employment or schooling. Keeping with this conceptualization of an individual with low self-control, The General Theory of Crime assumes that commission of criminal acts require no special skills or training and that criminal acts interfere with long-term commitments such as stable employment. Not surprisingly, then, the individuals who lack job instability are also the ones most likely to commit criminal acts.

The use of drugs and alcohol is associated with many forms of recidivism including the commission of violent crimes, parole violations, and not surprisingly, crimes involving alcohol or drugs (e.g., driving while under the influence of alcohol, possession of a narcotic, etc.). Interestingly, the use of alcohol or drugs is not associated with the commission of property offences and drug use is not implicated in sexual offences in this sample of sex offenders. The General Theory of Crime would predict associations between drug and alcohol use and all forms of crime, since it assumes that all of these actions "satisfy the tendencies of criminality" (p. 41). In other words, smoking marijuana, injecting heroin, and consuming alcohol all provide immediate benefits to the user and produce little in the way of long term gain.

Table 18 is a correlation matrix showing relationships between Time 3 (treatment completion) and Time 4 (recidivism) measures.

Table 18

Time 3 and Time 4 Measures. Correlation Matrix Depicting Relationships Between Treatment Completion (Time 3) and Time 4 Measures for Recidivism (Any Reoffence, Sexual Recidivism, Violent Recidivism, Property Recidivism, Parole Recidivism, Alcohol/Drug Recidivism, Any Other Reoffence).

	Treatment Completion
Any Reoffence	-.13*
Sexual Recidivism	-.04
Violent Recidivism	-.12*
Property Recidivism	-.13*
Parole Recidivism	-.13*
Alcohol/Drug Recidivism	-.11*
Other Recidivism	-.07

NOTE *p $\leq$ .05 (one-tailed).

Time 3 and Time 4 Measures

Table 18 shows relationships between Phoenix Program treatment completion and measures of recidivism. Findings indicate that treatment completion is negatively associated with reoffending when all forms of recidivism are included together (r = -.13). This means that treatment completion reduces the likelihood of committing subsequent offences. In terms of specific forms of recidivism, there is a negative relationship between treatment completion and commission of violent offences (r = -.12); property offences (r = -.13); parole violations (r = -.13); and alcohol or drug-related offences (r = -.11).

Theoretical Implications

Negative associations between treatment completion and the various forms of recidivism support Gottfredson and Hirschi's (1990) General Theory of Crime by demonstrating a relationship between recidivism and a non-criminal measure of self-control (i.e., sex offending treatment) that is especially relevant to this sample. However, treatment completion may also be related to recidivism for reasons other than self-control. That is, treatment may produce a decrease in the motivation to commit sex crimes, and/or it may help offenders learn how to limit criminal opportunities.

It is also important to note that the relationship between treatment completion and the various forms of recidivism is weak. Thus, for all forms of recidivism, knowledge of treatment completion would only be able to explain a minute portion of the variance in offending (as indicated by r-squared). Thus, factors other than treatment completion (e.g., prior criminal offence history, age) may be better indicators of recidivism in this sample of sex offenders.

None-the-less, the pattern of findings for treatment completion and measures of recidivism shows that completing treatment reduces risk of recidivism. The General Theory of Crime argues that any rehabilitative measure implemented in adulthood will likely be ineffective, since self-control can only be learned in early childhood (i.e., up to about age 8) (Gottfredson and Hirschi, 1990: 269). The results presented in Table 18 clearly stand in opposition to this contention, and suggest that treatment completion reduces criminal recidivism.

Among other things, treatment is designed to help sex offenders recognize, manage, and avoid situations that present a risk of re-offending (e.g., 91% of Canadian treatment programs address deviant sexual desires, 82% provide social skills training, etc., see Wormith, 1991 for a review of Canadian treatment programs for sex offenders). To the extent that treatment programs meets these objectives, and sex offenders learn these skills, treatment completion may limit subsequent opportunities to commit crime.

Although the General Theory of Crime assumes that opportunities are limitless, clearly, many situational factors can reduce the number of opportunities to commit sex offences. For example, a person convicted of incest is often denied access to the victim, and thus, has very limited opportunities to commit a subsequent incest crime. Most opportunities to commit sex crimes result from choices made by individual offenders (e.g., selection of a leisure activity that directly involves children such as "coaching soccer," or the decision to accept employment in an environment populated by children, as in a day-care worker). To the extent that offenders learn in treatment how to recognize high risk situations and develop the skills needed to avoid these, treatment completion may represent a reduced opportunity to re-offend.

Finally, treatment completion may even produce (or at least enhance) self-control in sex offenders. The General Theory of Crime provides no prediction about the relationship between low self-control and later self-control. Rather, Gottfredson and Hirschi argue that if low self-control is not adequately developed through early socialization practices in childhood, it is unlikely that it will *ever* develop (Chapter 2). Not surprisingly, General Theory has reservations about the effectiveness of any form of rehabilitation. However, contrary to the assumptions of the General Theory of Crime, studies have demonstrated success in training delay of gratification (i.e., self-control) (e.g., see Mischel, 1966; 1974).

Summing up Stability in Self-Control Over Time

The General Theory of Crime assumes that individual differences in self-control are evident very early in life, and to the extent that early socialization does not produce self-control, low self-control will be stable throughout people's lives (Gottfredson and Hirschi, 1990: 107-108). Chapter 4 showed that manifestations of self-control were evident very early in the lives of sex offenders (e.g., many sex offenders in this sample had been expelled from school). Hypothesis 2, 3, and 4 all focus on stability in manifestations of low self-control over time (see Chapter 2). Hypothesis 2 predicts that measures of self-control in childhood (e.g., school expulsion) will be positively correlated with measures of self-control in adulthood (e.g., job instability).

Hypothesis 3 deals with the association between earlier non-criminal and criminal manifestations of self-control and later criminality (i.e., persistence in the likelihood of commiting criminal acts). In this case, the General Theory of Crime predicts a strong positive association between indicators of self-control and measures of recidivism. Similarly, Hypothesis 4 predicts strong positive correlations between early measures of self-control and treatment completion (a non-criminal manifestation of self-control). As a general conclusion, the correlational analyses presented in Tables 13-18 show weak support for the stability of some, but not all of behavioral manifestations of self-control. Specific examples and the implications for the General Theory of Crime are discussed below.

Self-Control in Childhood and Adulthood (Table 13)

Consistent with the General Theory of Crime, I expected all of the early indicators of self-control to be highly correlated with the measures of self-control in adulthood (Hypothesis 2). In support of Hypothesis 2, all of the early school measures are *weak to moderately* associated with job instability in adulthood (i.e., quitting school, r = .27; failing a grade, r = .21; getting expelled, r = .23; and level of trouble, r = .36), (see Table 13). However, job instability in the *only* measure of self-control in adulthood that is associated with every self-control indicator from childhood. That is, quitting school and failing a grade are generally not predictive of later measures of self-control.

This finding is consistent with the earlier zero-order correlational analyses (see Chapter 3) which suggested that quitting school and failing a grade may not be good indicators of self-control (i.e. they were correlated with job stability but generally unrelated to the other measures). For these reasons, quitting school and failing a grade were excluded from the multivariate analyses presented at the end of this chapter.

Significant correlations between the remaining Time 1 measures (i.e., school expulsion and level of trouble in school) and indicators of self-control in adulthood (Time 2 measures) provide only weak support for the stability postulate (Hypothesis 2). Table 13 shows that offenders who were expelled from school are likely to use alcohol, hard drugs, and soft drugs in adulthood. In addition, school expulsion is positively related to subsequent prescription drug abuse, alcoholism, and drug addiction. Similarly, getting in trouble at school is indicative of later use of alcohol, hard drugs, and soft drugs, as well as prescription drug abuse, alcoholism, and drug addiction.

Figure 7 provides a summary of the associations between self-control indicators at Time 1 and Time 2 (see Figure 7).

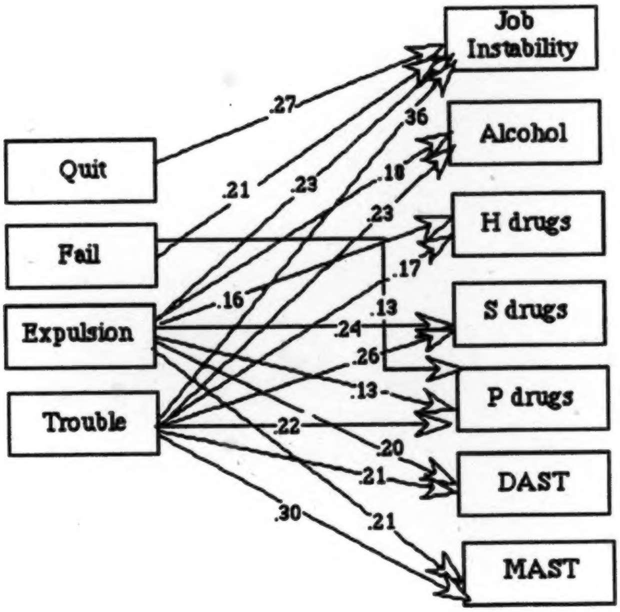
Job Instability
Alcohol
H drugs
S drugs
P drugs
DAST
MAST
Quit
Fail
Expulsion
Trouble
.27
.36
.21
.23
.18
.23
.17
.16
.13
.24
.26
.13
.22
.20
.21
.30
.21

Figure 7
Model of Relationships Between Time 1 and Time 2 Measures
NOTE: Lines depict significant correlations (one-tailed)

Self-control and Recidivism[6]

Hypothesis 3 (i.e., associations between measures of self-control and recidivism) corresponds to Tables 15 and 17. Table 15 includes Time 1 (i.e., early school behaviors) measures of self-control and later measures of recidivism (Time 4). The data presented in Table 15 indicates that trouble in school is predictive of any reoffence (r = .11). Specifically, there are positive correlations between level of school trouble and violent recidivism, parole recidivism, and re-offending for alcohol or drugs.

Trouble in school is retained as a key indicator of self-control in later analyses (i.e., the multiple regression analysis). Although level of school trouble supports the predictions of Hypothesis 3, the data also contain some unexpected aspects that are contrary to the assumptions of the General Theory of Crime. Specifically, all other early indicators of self-control (e.g., quitting school, failing a grade, and expulsion from school) are not associated with subsequent criminality. Figure 8 summarizes the findings for Time 1 and Time 4 measures.

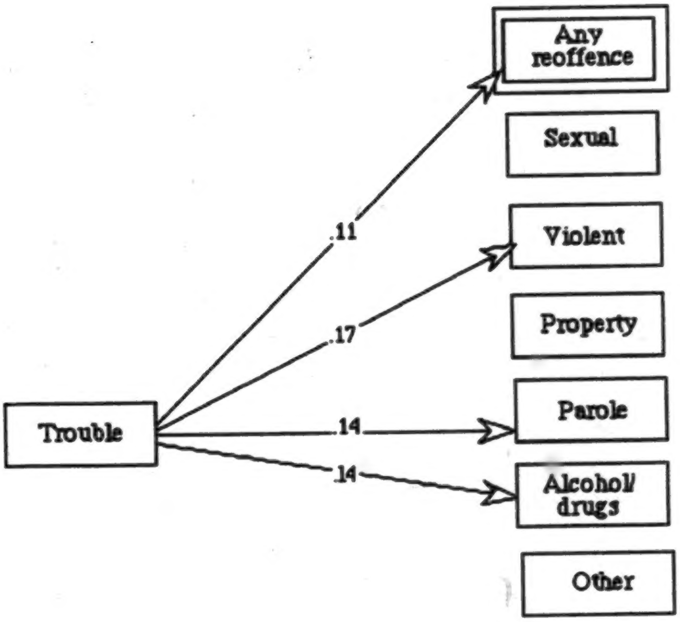
Any reoffence
Sexual
Violent
Property
Parole
Alcohol/ drugs
Other
Trouble
.11
.17
.14
.14

Figure 8
Model of Relationships Between Time 1 and Time 4 Measures
NOTE: Lines depict significant correlations (one-tailed)

Table 17 includes Time 2 measures of self-control in adulthood (e.g., job instability, use of alcohol, use of drugs) and measures of recidivism (Time 4). Examination of the results shown in Table 17 indicates several statistically significant relationships. In support of Hypothesis 3, job instability was positively correlated with any reoffence (r = .18), and in terms of specific forms of recidivism, job instability was associated with violent (non-sexual) reoffences, property recidivism, and drug or alcohol convictions. The use of alcohol was also positively associated with reoffences (r = .16) including sexual recidivism, violent crimes, parole violations, alcohol or drug-related crimes, and other crimes.

In terms of drug measures, use of hard drugs was indicative of reoffending (r = .147), for violent, parole, and alcohol or drug related crimes. Similarly, soft drug use was associated with subsequent offending (r = .16). Level of soft drugs use was also positively correlated with violent recidivism, parole recidivism, and alcohol or drug-related offences. Prescription drug abuse was not significantly correlated with any form of recidivism.

Because so few offenders abuse prescription drugs (i.e., only 14% of rapists, 5 % of incest offenders, and 6% of pedophiles), and this measure is not associated with any of the dependent measures, it is omitted from subsequent analyses. Drug addiction was only indicative of parole violations whereas alcoholism was positively correlated with all recidivism including recidivism for violent crimes, parole violations, alcohol or drug-related offences, and other forms of crime.

Figure 9 summarizes all significant correlations for Time 2 (self-control in adulthood) and Time 4 measures (post-treatment) (see Figure 9).

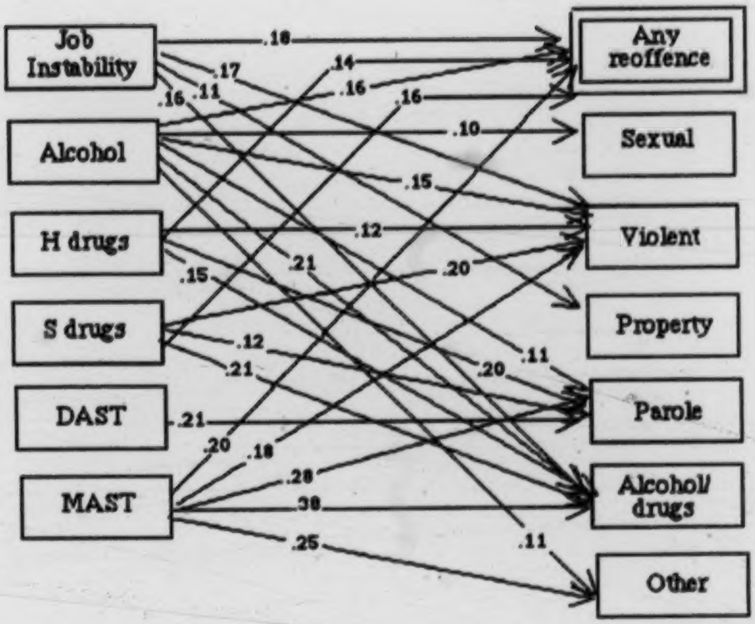
Job Instability
Alcohol
H drugs
S drugs
DAST
MAST
Any reoffence
Sexual
Violent
Property
Parole
Alcohol/ drugs
Other
.18
.17
.16
.11
.14
.16
.16
.10
.15
.12
.21
.15
.20
.12
.21
.11
.20
.21
.20
.18
.28
.38
.25
.11

Figure 9
Model of Relationships Between Time 2 and Time 4 Measures
NOTE: Lines depicts significant correlations (one-tailed)

Although Time 2 measures of self-control are associated with subsequent criminality, the correlations are weak in most cases (i.e., less than r =.30). Gottfredson and Hirschi (1990) claim that "competent research regularly shows that the best predictor of crime is prior criminal behavior" (p. 107). This contention is fundamental to the General Theory of Crime's stability postulate.

If self-control is as stable as Gottfredson and Hirschi suggest, then, earlier predictors of criminality (e.g., soft drugs use) should be more strongly associated with later dependent measures for criminality (e.g., any re-offence). The findings presented in Tables 15 and 17 challenge the strength of the General Theory of Crime's stability postulate in this sample of sex offenders. Self-control as an explanation of recidivism is examined in more detail at the end of this chapter.

Self-Control and Treatment Completion

Hypothesis 4 substitutes recidivism with a non-criminal dependent measure (treatment completion). Table 14 shows the correlations between early self-control measures (Time 1) and treatment completion; Table 16 presents correlations between Time 2 measures of self-control and treatment completion. With the exception of quitting school, measures of self-control at Time 1 were not indicative of who completed and failed to complete treatment for sex offending (see Table 14).

There were no statistically significant relationships between the *best* indicators of self-control at Time 1 (i.e., school expulsion, trouble in school) and treatment completion at Time 3. However, there was a weak negative correlation between quitting school and completing treatment for sex offending (r = -.16), meaning offenders who quit school were less likely to complete treatment.

Treatment Completion and Recidivism (Table 18)

Since the purpose of this chapter was to examine stability in self-control over time, correlations were also computed between treatment completion and measures of recidivism. In this case, treatment completion was assumed to be an independent measure of self-control at Time 3 and recidivism was the dependent measure of crime at Time 4. There was a significant negative relationship between treatment completion and recidivism (see Table 18). This means that offenders who complete treatment are less likely to be arrested for a subsequent criminal offence. Negative correlations were found between treatment completion and several forms of recidivism including any reoffence, violent recidivism, property recidivism, parole violations, alcohol or drug recidivism, but *not* sexual recidivism.

Conceptual Equivalence

Recall that the General Theory of Crime views all behaviors that are enacted in the pursuit of immediate, short-term benefits as equivalent to crimes. This assumption leads to the view of conceptual equivalence among behaviors legally defined as crimes (e.g., theft, sexual assault) and ones that are not criminal (e.g., smoking, drinking) but functionally similar (i.e., they produce immediate short-term benefits but little or no long term gain). The General Theory of Crime's assumption of theoretical equivalence leads to the prediction that self-control explains both criminal and non-criminal (analogous) acts (hence Hypothesis 3: The lower the self-control the greater the recidivism and Hypothesis 4: The lower the self-control, the lower the likelihood of treatment completion).

Self-Control Measures

To assess the explanatory power of indicators of self-control relative to competing variables provided by offender demographics, multiple regression procedures were employed. To test Hypothesis 3, multiple regression analyses were used to determine the degree with which combinations of self-control measures and offender characteristics could predict recidivism. Examination of the bivariate correlations presented earlier in this chapter revealed statistically significant relationships between measures of recidivism and indicators of self-control. In terms of Time 1 measures, expulsion from school and trouble in school were significantly related to all measures of self-control at time 2.

The most substantial correlations are between trouble in school and job instability (r = .36), alcohol abuse (MAST) (r = .30), and use of soft drugs (r = .26). Trouble in school is significantly correlated with each of the measures at Time 2. The dichotomous measure for school expulsion also shows significant (but slightly lower) correlations with all of the measures of Time 2. This is not surprising as being expelled in school is an important indication of trouble while in school, hence the strong association between expulsion and trouble (r = .768). As a result, trouble in school was retained and expulsion was omitted from the regression analysis.

Although Time 1 measures of self control had little impact on treatment completion, treatment completion is retained for its significant, albeit weak, correlations with measures of recidivism (e.g., there was a weak negative correlation between treatment completion and recidivism for any offence (r = .13)). The most sizable correlations between Time 2 and 4 measures looking at recidivism for any offence only, are observed for alcohol abuse indicated by MAST scores (r = .20), job instability (r = .18), soft drug use (r = .16), and alcohol use (r = .16).

Only the underlined measures that are indicated above are included in the multiple regression analyses and the results shown in Table 19 (see Table 19).

Table 19

Correlation Matrix Depicting Bivariate Relationships Between Offender Characteristics and Dependent Measures (i.e Offender Type, Treatment Completion, and Recidivism)

		age	educ	mstat	ethnicity	nprior	nspior	jail	prob	trmonth	postpri	postpro
1.	**offtype**	-.19***	-.01	-.01	.18**	.21***	.15**	.28***	-.14*	.08	.05	-.01
2.	**comptrt**	-.04	.15**	.01	-.13*	-.08	-.06	.02	-.04	.75***	-.68***	.62***
3.	**allcrime**	-.28***	-.05	.03	.14**	.44***	.07	-.12*	-.02	-.11*	-.06	-.03
4.	**rsexual**	-.10	.03	-.02	-.05	.12*	.19**	-.08	.12*	-.04	-.06	-.01
5.	**violent**	-.26***	-.04	.03	.13*	.26***	-.03	-.08	-.10*	-.09	-.03	-.08
6.	**property**	-.24***	-.02	.01	.02	.28***	-.00	-.10	.04	-.10	-.05	-.03
7.	**alcdrug**	-.22***	-.07	.09	.25***	.44***	.07	-.05	-.07	-.10	-.00	-.04
8.	**parole**	-.18**	.02	-.02	.20**	.16**	.01	.21***	-.12*	.01	.20***	-.07
9.	**other**	-.18**	-.07	.04	.15**	.42***	.04	-.13*	-.05	-.09	-.08	.00

NOTE: age = age in years; educ = educational attainment in years; mstat = marital status; ethnicity = offender's ethnicity; nprior = total number of prior offences; nsprior = number of prior sex offences; jail = length of prison term in months; prob = length of probation in months; trmonth = length of treatment in the Phoenix Program in months; postpri = length of prison sentence following discharge; postpro = length of probation following discharge from the Phoenix Program in months; offtype = offender type; comptrt = treatment completion; all crime = recidivism for all crimes, rsexual = sexual recidivism; violent = violent, non-sexual recidivism; property = property recidivism; alcdrug = alcohol or drug recidvism; parole = recidivism for a parole violation; and other = any other form of recidivism)

*p≤.05; **p≤.01; ***p≤.001 (one-tailed)

Offender Characteristics

Table 19 is a correlation matrix depicting bivariate relationships between offender characteristics and dependent measures (see Appendix B for other correlation matrices involving offender characteristics). Some of the measures for offender characteristics have higher correlations with recidivism than with measures of self-control.

For example, the highest correlation is between number of prior offences and recidivism. Number of prior offences is positively correlated with recidivism for any offence (r = .436). Age is negatively related to recidivism, r = -.277. Interestingly, level of education is not associated with any form of recidivism (see Table 19).

Multiple Regression Analyses

Table 20 summarizes the results of regressing any kind of recidivism on key offender characteristics and self-control measures underlined above. Summary coefficients for each block indicate beta values and the R-square for variables entered up to that point. The last two columns include the final unstandardized and standardized coefficients when the effects of all other measures are controlled.

Table 20

Regression of recidivism on self-control and offender characteristics

	Recidivism				
	(1)	(2)	(3)	(4) B	b
Age	-.28			-.04	-.15
Job Instability		-.03		-.08	-.04
Alcohol Use		.08		.23	.09
Soft Drug Use		-.03		-.02	-.01
Number of Prior Offences		.75		.38***	.72
MAST (Alcoholism)		-.23		-.04*	-.23
Treatment Completion			-.19	-.99**	-.20
R-Square:	.08	.50	.53	Adj. Rsq:	.50

$^*p \leq .05$; $^{**}p \leq .01$; $^{***}p \leq .001$

NOTE: Only variables entered in the final block are shown above.

Recidivism Results

The results of regressing any kind of recidivism on offender characteristics and measures of self-control are reported in Table 20. In the first block entered, (consisting of age and trouble in school), age has a moderate negative coefficient (b = -.28). Trouble in school was removed from this equation.[8] Introduction of block one results in an R-square value of only .08, indicating weak predictability (i.e., only 8% of the variation in recidivism can be explained by the variation in age).

The inclusion of measures of self-control in adulthood along with number of prior offences increased the R-square to .50. The substantial improvement in R-square is accounted for by inclusion of number of prior offences, which has the highest beta value among all of the coefficients (b = .75) in this analysis. The standardized coefficient for alcoholism was the second largest, b = -.23 entered in block 2.

Treatment completion, entered at block 3, has the highest coefficient of all of the measures at this stage, with a beta of -.19. (Offender type was entered and removed at this stage).

The final effects reported in Table 20 show that number of prior offences (i.e., criminal convictions) is clearly the strongest predictor of recidivism among sex offenders. The standardized coefficient of .72 indicates that the extent to which offenders have a history of prior offences (excluding the one that resulted in treatment for sex offending) is associated with a .7 of a standard deviation increase in the likelihood of recidivism.

Importantly, treatment completion is negatively associated with any kind of recidivism. Treatment completion predicts a modest decrease in recidivism (b = -.19). Knowledge that an offender completed treatment, leads to a prediction of a .2 standard deviation decrease in the likelihood of recidivism.

Alcoholism is also associated with recidivism, but in a manner not predicted previously. MAST scores predict a slight *decrease* in recidivism, (b = -.23). This contradictory effect is puzzling. Although I provide an explanation for this finding below, a more detailed examination of recidivism by offender type is provided in Chapter 6.

Theoretical Implications

Results of the regression analysis pose some problems for the General Theory of Crime's basic premise that a lack of self-control is the primary cause of crime. While acknowledging that other factors such as opportunity or guardianship can interact with a lack of self-control to produce criminal outcomes, Gottfredson and Hirschi's theory cannot explain why only one of the indicators of self-control used in this study (i.e., MAST scores) predicted recidivism.

More damaging to the General Theory of Crime's stability postulate is the direction of the relationship between alcoholism and criminal recidivism. The findings indicate a negative correlation meaning the lower the alcoholism in sex offenders, the higher the likelihood of criminal recidivism. This effect is puzzling and may reflect a spurious relationship. For example other considerations such as leisure activities or an inability to cope with stress may increase the likelihood of both using alcohol and committing criminal offences, producing a weak relationship between alcoholism and recidivism). In addition, there may be measurement issues associated with the use of the Michigan Alcohol Screening Test for detection alcoholism in this sample of sex offenders.

Recall that the MAST consists of 25 behavioral statements designed to probe respondents for indicators of alcoholism. Items are assigned a weight of 0-5, where a score of 5 indicates alcoholism. For example, item 4 asks " Can you stop drinking without a struggle after one or two drinks?" and is weighted with a score of 2.

According to the MAST scoring criteria, the vast majority of rapists, pedophiles, and incest offenders have a history of alcohol abuse.

If alcoholism is viewed as an all or none entity, where a score of 5 or greater indicates alcohol abuse, then a ceiling effect exists for this group making the relationship between alcoholism and recidivism difficult to interpret. Although a negative correlation exists between MAST scores and recidivism, a lower MAST score (e.g., 7 or 8) would still reflect alcoholism. MAST scores are not meant to be interpreted on a continuum. Thus, if lower scores are associated with a greater likelihood of recidivism, it still reflects the finding that most offenders are alcoholic, regardless of whether they score 5 or 25 on the MAST.

In addition to MAST scores, treatment completion was indicative of a reduced likelihood of commiting a criminal offence in the sample of sex offenders. Although the treatment effect was weak, it suggests that rehabilitation of sex offenders is possible. The General Theory of Crime is very explicit in its stance on rehabilitation efforts. The General Theory of Crime targets very early socialization experiences (i.e., familial experiences that occur prior to the age of about 8 years old) as the only critical period for intervention designed to prevent crime commission.

The General Theory of Crime views rehabilitation efforts at any other stage in the life course as largely ineffective, claiming the "window of opportunity" for effective treatment is very narrow given the fact an offender must be first identified as a criminal, and this often does not occur until the person has started to decrease his or her criminal behavior with age (see Gottfredson and Hirschi, 1990: 268).

This view of rehabilitation is interesting, given the General Theory of Crime's insistence on the stability in self-control over time. Although Gottfredson and Hirschi concede that there is a decline in crime with age, they maintain that the propensity to commit criminal acts (i.e., a lack of self-control) remains stable. In this case, individuals who are inclined towards crime, remain so, but opportunity structures and other considerations (e.g., physical mobility, guardianship, goods, victims, etc.) decline with age. Given that sex offenders tend to be much older when they are "identified" for their role in the commission of sex crimes, it is plausible to assume that they either have very low levels of self-control or they continue to encounter criminal opportunities at a high rate over time, irrespective of age.

The findings of the present research suggest that treatment is effective in reducing the likelihood of recidivism. These results call into question the General Theory of Crime's stability postulate and support the growing body of literature on the merit of treatment programs for lowering risk of recidivism in sex offenders.

Offender-based treatment programs typically utilize one or more of three rehabilitative methods: psychological regimes, behavioral modification strategies and biological-based procedures. Psychological approaches to sex offender treatment typically involve psychotherapy sessions that include sex education therapy, anger management therapy, victim empathy therapy, cognitive therapy, individual and group counseling (Sapp & Vaughn, 1991). Behavioral techniques are based on operant and classical conditioning theory and typically utilize positive and negative reinforcement in an effort eliminate deviant sexual arousal patterns (Lockhart, Saunders & Cleveland, 1989). Biological rehabilitation, on the other hand typically involves pharmacological interventions such as the use of Depo-Provera or androgens (Sapp & Vaughn, 1991).

To date, research on treatment effectiveness for reducing rates of sex offender recidivism (re-offences) is inconclusive with recidivism rates ranging anywhere from zero to more than 50% (Furby, Blackshaw & Weinrott, 1989). Furby, Blackshaw and Weinrott (1989) conducted the most comprehensive literature review to date on recidivism rates following sex offender treatment and concluded that there was no evidence that sex offender treatment decreased the likelihood of re-offending. More disturbing, Furby, Blackshaw & Weinrott (1989) compared results from studies on untreated sex offenders to studies of treated offenders and found lower rates of recidivism for *untreated* offenders.

Hall (1995), however, conducted a meta-analysis of all treatment outcome studies published after Furby et. al's (1989) research and found the opposite. Overall recidivism rates for untreated sex offenders was .27 but only .19 for those who underwent some form of treatment. Research on treatment effectiveness remains inconclusive with some studies viewing treatment outcomes favorably (Becker & Hunter, 1992; Marshall, Jones, Ward, Johnston & Barbaree, 1991) and others questioning the efficacy of treatment for reducing sex offending (Hanson, Steffy & Gauthier, 1993; Rice, Quinney & Harris, 1991). A better understanding of the factors that predict criminal recidivism is essential to the development of effective treatment programs.

Summary and Conclusions

This chapter examined the General Theory of Crime's assumption of stability in manifestations of self-control over time. Hypothesis 2 predicted positive correlations between measures of self-control at Time 1 (i.e, school years) and Time 2 (i.e., adulthood). Hypothesis 3 dealt with associations between indicators of self-control and criminal recidivism. In this case, strong positive correlations were predicted for measures at Time 1 (i.e., school years) and Time 4 (i.e., recidivism) as well as for Time 2 (i.e., adulthood) and Time 4. Finally, Hypothesis 4 predicted strong associations between indicators of self-control and treatment completion (i.e., the non-criminal dependent measure).

General Theory of Crime's stability postulate is moderately supported by the results for measures of self-control at Time 1 (i.e., school years) and Time 2 (i.e., adulthood). The relationship between problems at school and job instability is consistent with Gottfredson and Hirschi's conception of criminality. Getting into fights, skipping school, quitting school, failing a grade, and getting expelled are behaviors characteristic of sex offenders and to the extent that self-control is stable, these people continue to do things that interfere with long term commitments in adulthood evident in the fact that they often get fired from positions of employment or quit jobs for reasons other than advancement within a chosen profession. The General Theory of Crime would attribute these relationships to a lack of self-control.

However, quitting school and failing a grade are not associated with any measures of self-control in adulthood other than job instability. Quitting school and failing a grade may be end result of factors other than self-control. For example, intelligence or cognitive functioning may be more responsible for academic success or failure than degrees of self-control. Failing a grade may motivate a student to quit school, especially if that person cannot determine any benefits of remaining in school. A person with a cognitive deficit may be unable to delay gratification or see the negative long term implications of crime commission in a manner comparable to the person who lacks self-control and thereby cannot delay gratification. That is not to say the person with impaired cognitive functioning lacks self-control.

There are probably numerous reasons other than self-control that explain why students quit school. For example, a student may quit school in order to secure full-time employment. In this case, the student is probably acting in a manner reflective of responsibility and self-control, rather than an unplanned, impulsive moment due to a lack of self-control. Another student may quit school due to extraneous circumstances such as a pregnancy, a terminal illness, or a need to care for family members. Any or all of these considerations can operate independent of self-control.

In addition, while expulsion from school and level of trouble in school are correlated with all measures of self-control in adulthood (e.g., use of alcohol, hard drugs, soft drugs, prescription drug abuse, DAST scores, MAST scores), the associations are weak to moderate. Thus, the explanatory power of any given indicator of self-control is limited and factors other than self-control (e.g., opportunity, guardianship) are likely to be exerting an influence on adult behaviors in these instances.

Results for associations between Time 1 and Time 2 measures of self-control and recidivism are generally not supportive of the General Theory of Crime's assumption of stability in Hypothesis 3. The General Theory of Crime is based on the premise that self-control is the underlying cause of criminal behavior. The results of my analysis do not support this assertion.

Trouble in school is the *only* early measure of self-control associated with recidivism. Moreover, the correlations between level of trouble in school and measures of recidivism are *weak* and exist for only some forms of recidivism (i.e., any reoffence, violent recidivism, parole violations, and alcohol or drug-related offences). Time 2 and Time 4 measures follow a similar pattern with *weak* correlations existing between measures of self-control in adulthood (i.e., job instability, use of alcohol, use of hard drugs, use of soft drugs, drug abuse, and alcoholism) and some of the measures of recidivism. The strongest correlation is between alcoholism and alcohol or drug-related recidivism, and even this association is only moderate.

Findings for the regression of recidivism on measures of self-control and offender characteristics show even less support for Hypothesis 3. The best indicator of self-control at Time 1 (i.e., trouble in school) was omitted from the first regression equation because it failed to produce a significant effect. Although retained in the regression equation, regression coefficients for most Time 2 measures (i.e., job instability, alcohol use and soft drug use) were also not statistically significant. The strongest predictor of recidivism in this sex offender sample was number of prior offences, not one of the indicators of self-control selected for use in this study.

Hypothesis 4 was also not supported by the findings of this study. Early measures of self-control are generally not indicative of who completes treatment for sex offending. There was only one significant correlation between a measure of low self-control in childhood and treatment completion.

Quitting school was negatively associated with treatment completion. This finding is not surprising, since it implies that sex offenders who did not complete their schooling also fail to complete treatment. The finding demonstrates stability in a lack of persistence, which may or may not be the result of low self-control. With the exception of drug abuse, none of the measures of self-control in adulthood were associated with treatment completion. The positive correlation between drug abuse and treatment completion is puzzling, and may be more indicative of measurement problems than a tendency for drug abusers to finish treatment.

CHAPTER 6: SELF-CONTROL AS A VERSATILE CONSTRUCT

The Versatility Postulate

The descriptive results presented in Chapter 4 show that self-control varies within sex offenders. That is, the empirical indicators of self-control (i.e., level of trouble in school, level of job instability, etc.) produce variation such that an offenders behavior is representative of low, moderate, or high levels of self-control, depending on the particular measure. Gottfredson and Hirschi's General Theory of Crime does not account for these findings, since it views self-control in absolute terms as being either high or low in nature. Viewing self-control as an attribute, the General Theory of Crime is constructed primarily as a tool for distinguishing criminals (i.e., persons with low self-control) from non-criminals (i.e., persons with high self-control). The descriptive findings presented in Chapter 4 suggest that the General Theory of Crime's conceptualization of its key construct should be modified to account for the variability in self-control within criminals. One way to accomplish this is to examine self-control as a variable and operationalize this key construct on a continuum that ranges from low to high as in the present study.

The discovery that self-control varies within criminals, leads to another issue for the General Theory of Crime: Does knowing someone is a rapist (versus child molester) help predict manifestations of self-control as revealed in the versatility hypothesis? Hypothesis 5 states that measures of self-control will discriminate between incest offenders, pedophiles, and rapists. This hypothesis poses a potential problem for the General Theory of Crime if in fact, there are predictable differences in self-control between child molesters and rapists. The descriptive statistics presented in Chapter 4 lend support to the notion that self-control varies within sex offenders and that self-control varies between sex offender sub-types. Hypothesis 5 focuses on differences in self-control between sex offender sub-types.

Recall that rapists had a greater likelihood of being expelled from school and being in trouble at school (i.e., fights, truancy) relative to incest offenders and pedophiles. In addition, rapists were more likely to use illegal drugs (e.g., hashish, cocaine, heroin), and more specifically, rapists used soft drugs (e.g., marijuana) at a higher frequency than child molesters. Rapists also consumed more alcohol (i.e., they were more likely to admit to alcohol abuse) relative to child molesters. These important differences are not predicted by the General Theory of Crime.

To the extent that self-control differs in predictable ways across sex offenders, the General Theory of Crime's versatility postulate is called into question. That is, the differences suggest predictability in level of self-control as a function of sex offender classification. In this case, knowing a person has committed a sexual assault against an adult female is suggestive of less self-control in the offender relative to someone who is known to have committed a sex offence against a child.

Given that rapists have lower levels of self-control relative to incest offenders and pedophiles, it is expected that rapists will be least likely to complete treatment for sex offending because their lack of self-control will correspond to a lack of persistence for this method of rehabilitation. In addition, as a result of lower levels of self-control, rapists should be more likely to commit subsequent criminal offences following treatment relative to child molesters. Further, given that rapists have lower levels of self-control than child molesters, it is expected that this sub-group will commit a greater variety of offences.

The following section examines predictability in non-criminal and criminal outcomes using offender type as an independent measure. Beginning with the non-criminal outcome measure, Table 21 shows treatment completion by sex offender type.

Table 21

Treatment Completion by Offender Type

	Incest Offender	Pedophile	Rapist
	N (%)	N (%)	N (%)
Completed Treatment	57 (53)	23 (46)	41 (50)
Failed to Complete Treatment	51 (47)	27 (54)	41 (50)

The results displayed in Table 21 show that approximately half of the sex offenders completed treatment while the other half did not. There is no discernible pattern of treatment completion by offender type.

An implicit assumption of the General Theory of Crime is that all criminals, including sex offenders have relatively low levels of self-control (i.e, they have little control over their desires). Based on this assumption, the General Theory of Crime would further argue that a failure to complete treatment should be high in this sample. Specifically, Gottfredson and Hirschi (1990) argue that "people lacking self-control also tend to lack diligence, tenacity, or persistence in a course of action" (p. 89). The General Theory of Crime makes no allowance for differences across sex offender groups. In this case, failure to complete treatment should not differentiate among sex offender sub-types because all sex offenders should have fairly low self-control.

In accordance with the predictions of the General Theory of Crime, a high proportion of all sex offenders fail to complete treatment (i.e., 50% of the sample) and there is no discernible difference in the likelihood to complete treatment across rapists, incest offenders, and pedophiles.

Based on an assumption that criminals lack self-control, the General Theory of Crime also predicts that sex offenders are highly likely to commit subsequent offences. In this case, all sex offenders should be highly likely to re-offend following discharge from treatment (or prison, if treatment was terminated early).

Moreover, the General Theory of Crime predicts there will be versatility in recidivism, reflecting the many ways in which self-control may be manifest. Thus, sex offenders should commit all kinds of crime (e.g., property crimes, sex crimes, drug offences) with no tendency to specialize in any given type.

Finally, the General Theory of Crime predicts no differences in recidivism among sex offender types. In this case, rapists should be just as likely as pedophiles and incest offenders to commit a subsequent property crime.

Recall that a 2 year interval between the end of treatment and the C.P.I.C. update was used to standardize the recidivism risk period across sex offenders such that all offenders had a recidivism risk period of at least two years following treatment. The 2 year interval was imposed in order to adjust for differences in time in treatment, length of post-treatment probation sentences, and any remaining post-treatment jail terms across sex offenders. A minimum lapse of 2 years between treatment completion and C.P.I.C. update ensured that all offenders experienced time outside of an institution (i.e., a recidivism risk period) (see Chapter 3 for a review of these issues).

Taking into account the imposed recidivism risk interval of a minimum of two years, the average recidivism risk period for the sample was 5.0 years. This means that most sex offenders in this sample had been released into the public for a period of 5 years prior to the recidivism follow-up. There were no differences in recidivism risk period across rapists, pedophiles, and incest offenders, F (2, 237) = 2.23, p = n.s.

The proportion of offenders who commit one or more of each crime type during the five year follow-up period are shown in Table 22.[9]

Table 22

Recidivism by Offender Type

Reoffence Type	Incest Offender (N = 108)	Pedophile (N = 50)	Rapist (N = 82)
Any Reoffence	21.3% (23)	22.0% (11)	40.2% (33)
Sexual Offence	4.6% (5)	14.0% (7)	8.5% (7)
Violent Offence	7.4% (8)	6.0% (3)	12.2% (10)
Property Offence	6.5% (7)	8.0% (4)	18.3% (15)
Alcohol/Drug Offence	10.2% (11)	4.0% (2)	14.6% (12)
Parole Violation	0.9% (1)	None	14.6% (12)
Other Offence	7.4% (8)	6.0% (3)	17.1% (14)

The results presented in Table 22 indicate that 67 sex offenders committed one or more subsequent crimes during the 5 year period following discharge from treatment (or prison in the case of offenders who ended treatment early and were discharged back to prison). There were a total of 129 crimes committed during this recidivism time frame.

These findings suggest that recidivism among sex offenders is high (in the sense that any recidivism is undesirable) This finding is predicted by the General Theory of Crime which assumes stability in self-control over time. Within just five years, 28% of this sample had already committed a subsequent criminal offence. Considering that C.P.I.C. statements only contain information on convictions (i.e., crimes that are know to the police and ones that were successfully prosecuted), it is likely that released sex offenders are committing an even greater number of crimes. A follow-up period of ten years would likely show even higher rates of recidivism in this sample.

Table 22 also displays results which *contradict* the General Theory of Crime's versatility postulate. Importantly, recidivism is related to sex offender type. Twice as many rapists committed a subsequent crime relative to pedophiles and incest offenders, when all offences are classified together, X^2 (2, N = 240) = 9.41, p = < .05. In terms of specific forms of crime, rapists are 15 times as likely to commit a parole violation, X^2 (2, N = 240) = 20.71, p = < .001, and more than twice as likely to commit a subsequent property offence, X^2 (2, N =240) = 7.26, p = .02, relative to incest offenders and pedophiles.

Summary and Conclusions

Hypothesis 5 predicted that self-control would discriminate between incest offenders, pedophiles, and rapists. The General Theory of Crime argues that self-control differs between offenders and non-offenders, but has no provision for predicting differences in self-control between offender typologies. In fact, the General Theory of Crime's versatility postulate opposes the use of typologies altogether based on the assumption that typologies necessarily imply specialization in offending.

Findings for recidivism predicted by sex offender type, indicate that rapists are convicted of subsequent criminal offences at a much higher frequency than child molesters. This is an important distinction. Comparisons among sex offender types on all measures of self-control support the idea that rapists have lower levels of self-control than pedophiles and incest offenders. In addition, rapists' criminality is particularly salient in property offences and parole violations; two behaviors that correspond well to Gottfredson and Hirschi's conceptualization of low self-control. That is, rapists are versatile in their criminal behavior; they do not repeatedly commit just sexual assaults. However, versatility in criminal manifestations of self-control is not as apparent for all sex offenders.

The pattern of findings for sex crimes is particularly interesting. Although there are no significant differences in the total number of sex crimes committed by offender sub-types, a large portion of pedophiles' subsequent convictions are for sexual offences. The same cannot be said for rapists and incest offenders. Specifically, the results reported in Table 22 show that only 22% of pedophiles reoffend, but of those who reoffend, 64% (i.e., 7 out of 11) commit a subsequent sex crime. In contrast, only 21% of rapists and incest offenders commit a subsequent sexual offence. To the extent that pedophiles re-offend, they tend to specialize in sex crimes.

Theoretical Implications

According to the General Theory of Crime, both criminal and analogous behaviors result from a lack of self-control. In this case, sex offenders should commit crimes, delinquent behaviors, and other functionally equivalent acts (e.g., drinking, smoking, accidents) at a high rate consistent with a tendency to "live for the here and now" (i.e., an inability to delay gratification). Based on these assumptions, Gottfredson and Hirschi (1990) argue that "within the domain of crime, then, there will be much versatility among offenders in the criminal acts in which they engage" (p. 91).

The descriptive results presented earlier indicate that sex offenders as a criminal population, engage in a wide range of behaviors that can be conceptualized as indicators of self-control. For example, some sex offenders score very high on the Michigan Alcohol Screening Test and they tend to have very unstable employment histories that include getting fired from more than one job, and quitting jobs for reasons other than career advancement. Although it is impossible to determine whether sex offenders differ from the non-offender population on these measures without the use of a control group, the findings show that a large portion of sex offenders engage in the behaviors selected as indicators of low levels of self-control (i.e., high job instability, a high level of trouble in school).

Self-control (as measured by school trouble, drug use, etc.) is not uniform across sex offenders. For any given measure of self-control (such as level of school trouble or job instability), there is high variability across sex offenders. That is, some sex offenders get into a high level of trouble at school, while other sex offenders report no trouble in school. Similarly, some sex offenders claim they have never tried any illegal drugs, while others engage in soft drug use at a high frequency and hard drug use at a moderate level.

For any given individual, the General Theory of Crime assumes versatility in the manifestations of self-control. In other words, it would be expected that some sex offenders will get into accidents, while others will commit break and enters, while still others will drive while under the influence of alcohol, depending on the specific circumstances and opportunities available to each individual sex offender. The sex offenders in this sample conform to this expectation, as some got into trouble at school, while others had difficulty securing stable employment and others reported drug abuse.

What is not predicted by the General Theory of Crime, and what probably constitutes the most interesting finding of the present study is the consistency in the pattern of measures of self-control between sex offender sub-groups (i.e., rapists, pedophiles, incest offenders). The pattern of findings suggests that rapists have lower self-control relative to incest offenders and pedophiles. Specifically, rapists were more likely to fail a grade, quit school, get expelled, use hard drugs, be classified as at risk of alcohol abuse, and abuse prescription drugs relative to incest offenders and pedophiles. This finding is not predicted by the General Theory of Crime which argues against the use offender typologies.

The differences across sex offender sub-types led to an examination of the predictability in criminal outcomes using offender type as an independent measure. This was not accounted for in the original formulation of the General Theory of Crime but Gottfredson and Hirschi's (1990) theory could be re-specified to handle it. If self-control is viewed as a continuum, then sex offenders, as a population may be representative of the moderate to low end of this variable. Within this range, sub-groups of offenders may be identified which are representative of various levels of moderate to low self-control. In this case, it would be expected that rapists would be characteristic of the very low end of the continuum, with incest offenders representing a low end, and pedophiles defining a more moderate range of self-control.

Given that rapists have lower self-control than incest offenders and pedophiles, they should be most likely to commit subsequent criminal offences due to their lack of self-control. In this case, the General Theory of Crime would predict that rapists would commit both criminal and analogous behaviors at a very high frequency. In fact, rapists are twice as likely to reoffend relative to child molesters. This is not surprising if rapists have the lowest levels of self-control. And, following suit, the offence history of rapists before and after committing sexual assaults suggests that they are "generalists." That is, rapists' behavior is highly versatile; they are just as likely to get into trouble at school, as they are to commit a property crime, a drug crime, or a sex offence.

What cannot be explained using the General Theory of Crime is reduced versatility in incest offenders (relative to rapists) and the complete lack of versatility in criminal outcomes for pedophiles. When incest offenders commit a subsequent offence following sex offender treatment, it is highly likely to be a drug or alcohol-related offence, a violent offence or a property offence. To the extent that pedophiles reoffend, they are highly likely to commit only a subsequent sex offence. What this suggests is that the General Theory of Crime needs to be re-specified to account for the variability of self-control across criminals.

In other words, there may be a continuum of self-control within the criminal population that renders some criminals more or less likely to offend than others. In the case of sex offenders, rapists are on the lower end of the continuum and their behavior conforms to the General Theory of Crime's conceptualization of a criminal that is consistent with the nature of crime. In contrast, pedophiles may be on the moderate end of the self-control continuum accounting for why their behavior is far less versatile.

The implications for treatment and sentencing are even more profound. Because pedophiles have some self-control, results of this study suggest they are good candidates for successful rehabilitation efforts. On the other hand, to the extent that treatment is unsuccessful, or that they do not receive treatment, pedophiles may reoffend. To the extent that a subsequent offence is committed, a pedophile is highly likely to commit another sexual crime. The fact that reoffending is likely to involve a sex offence implies that sex offender treatment for this sub-group should be re-directed to particular aspects of sexual offending rather than assume a global focus on a variety of life skills.

Prevention of recidivism in rapists and incest offenders is far less likely, given their lower levels of self-control and higher rates of recidivism. In this case, reduction of sexual assaults as well as other offences may lie in early prevention. In accordance with Gottfredson and Hirschi's (1990) arguments, the target for prevention in this case would not lie with the individual offender, but rather should be aimed at family practices and techniques that can be used to improve early socialization of children.

CHAPTER 7: DISCUSSION AND CONCLUSION

Purpose

The primary purpose of this study was to examine the applicability of Gottfredson and Hirschi's (1990) General Theory of Crime for explaining sex offending. In accomplishing this objective, my research addressed measurement issues concerning The General Theory of Crime's core construct of self-control. In addition, my research sought to clarify three of the General Theory of Crime's key assumptions including the idea of conceptual equivalence regarding the nature of criminal and analogous acts, the contention of stability in manifestations of self-control over time, and the idea that self-control is a versatile construct. Each of these issues is summarized below.

Measurement Issues

The single most popular criticism of the General Theory of Crime concerns measurement of its key concept (i.e., self-control). Although Gottfredson and Hirschi go to great lengths to show how a conceptualization of low self-control is consistent with what we already know about most forms of crime (e.g., that most crimes produce immediate gratification but little in the way of long term benefits), they never define this core concept. Instead, Gottfredson and Hirschi offer the analogy that "people who lack self-control will tend to be impulsive, insensitive, physical, (as opposed to mental), risk-taking, short-sighted, and nonverbal" (p. 90). This description is suggestive of an inherent predisposition, and Gottfredson and Hirschi even refer to these characteristics as "traits." Many researchers have followed this logic and tested the General Theory of Crime using measures of self-control that are indicative of personality dimensions such as impulsivity or risk-seeking (e.g., Grasmick, Tittle, Bursik, and Arneklev, 1993; Forde and Kennedy, 1997).

However, the authors themselves later argue *against* this interpretation of self-control. Specifically, Hirschi and Gottfredson (1993) claim this view represents the "logic of psychological positivism," a notion rejected by the General Theory of Crime (p. 49). Ironically, Hirschi and Gottfredson do not seize upon this opportunity to define what they really mean by self-control, but concede that Keane, Maxim, and Teevan's (1993) behavioral measures of self-control are closer to their conceptualization of this construct. Since Keane et. al's study is the only empirical test of General Theory that uses a behavioral measure, the present study contributes to the literature through its inclusion of several behavioral indicators of self-control (described in Chapter 3).

Another major issue in the measurement of self-control concerns the variability of self-control within criminals. Gottfredson and Hirschi develop the General Theory of Crime primarily to account for differences between criminals and non-criminals. Criminals are described as having low self-control while non-criminals are people with high self-control. Although Gottfredson and Hirschi point out that individuals differ with respect to how much self-control they possess, nowhere in the General Theory of Crime is there a statement concerning degrees of self-control within criminals. Thus, the General Theory of Crime makes no allowance for differences in self-control within criminal populations.

The present study predicted that due to individual differences, self-control would vary within a sample of sex offenders (Hypothesis 1). The descriptive results of my study show that self-control is highly variable within sex offenders (see Chapter 4). For example, some sex offenders had no trouble in school (i.e., high self-control), while others had one or two major problems (i.e., moderate self-control), and some sex offenders reported three or more problems while at school (i.e., low self-control).

Similarly, in terms of job instability as an indicator of self-control, a portion of sex offenders had high self-control evident in a stable work history including mainly full-time employment for long periods of time. Others admitted to moderate self-control as inferred from a relatively stable employment history consisting of steady part-time employment or steady employment in short-term positions. Some of the sex offenders had very low self-control as measured by an unstable work history (e.g., they had quit at least two jobs for reasons other than advancement and/or had been fired more than once).

There was also high variability in the extent to which sex offenders used illegal drugs. Some offenders claimed they had never used soft or hard drugs (i.e., high self-control) while others reported having experimented with a drug on one or two occasions (i.e., moderate self-control). A high proportion of sex offenders also used drugs like marijuana and hashish on a regular basis (i.e., at least once a month), and many used soft drugs 3 or more times a week (i.e., low self-control). Most of these individuals started using drugs when they were about 15 years of age with some reports as early as 7 and as old as 25.

Some measures used in this study are better indicators of self-control than others. For example, the vast majority of sex offenders consume alcohol on a regular basis suggesting that either all sex offenders are alcoholics or more likely, that most people drink on occasion. If most people consume alcohol, the usefulness of alcohol consumption as a measure of self-control is questionable. Without a comparison group of individuals who do not commit sexual offences, the degree to which sex offenders' self-control for alcohol or any other measure compares to a normal population cannot be determined. However, even in terms of alcohol use, which occurs with regularity across sex offenders, there is some variability in self-control.

Some offenders had low self-control for alcohol use evident in a history of alcohol abuse (i.e., they reported having experienced black-outs related to drinking, they were members of Alcoholic Anonymous, etc.) relative to other offenders who displayed higher levels of self-control reporting only the occasional (or regular) use of alcohol.

In summary, self-control varied considerably within sex offenders. Taken together, these results suggest that self-control should be viewed as a variable rather than an attribute (i.e., the presence or absence of self-control). Sex offenders display a range of self-control that is lost when self-control is viewed as an all or none entity. The General Theory of Crime was developed primarily to explain differences between criminals (i.e., people with low self-control) and non-criminals (i.e., people with high self-control). The findings reported in this study suggest that the General Theory of Crime would benefit from a reformulation that takes into account variations in self-control within criminals. Future research that treats self-control as a variable operating on a continuum from very low levels to very high levels will contribute to our understanding of the effect of self-control on crime.

Conceptual Equivalence

A second major issue addressed by the present research is the General Theory of Crime's contention of conceptual equivalence regarding criminal and non-criminal behaviors. The General Theory of Crime claims superiority in relation to many other criminology theories because it can be used to explain crimes as well as many behaviors that are not defined as criminal in the legal sense. My research included both criminal (recidivism) and non-criminal (treatment completion) dependent measures to determine if indicators of self-control could adequately explain both kinds of outcomes.

Several significant correlations were found between measures of self-control and measures of recidivism, but self-control was generally not predictive of who completed treatment and who failed to complete treatment. Correlational findings are described in more detail in the section on stability.

Although the findings of this study do not support the General Theory of Crime's claim of conceptual equivalence, other studies which replicate these measures (i.e., that use multiple behavioral indicators of self-control in conjunction with treatment completion or comparable non-criminal dependent measures) should be conducted before any firm decision on the merit of this claim is reached.

An important contribution would be the addition of measures of opportunity and social control factors which prevent manifestations of self-control from occurring. Gottfredson and Hirschi's General Theory of Crime does not specify the conditions when and under which any given crime or analogous act will take place. However, Gottfredson and Hirschi (1990) claim that "crimes are short-term, circumscribed events that presuppose a set of necessary conditions: activity, opportunity, adversaries, victims, and goods" (p. 137). Thus, even if sex offenders lack self-control, any or all of the factors mentioned above (e.g., adversaries) may affect treatment completion, since self-control is at best, an imperfect indicator of crime and functionally equivalent acts.

The Stability Postulate

Another major goal of this study was to assess the General Theory of Crime's stability postulate. The General Theory of Crime argues that self-control is stable over time. That is, once a person is adequately socialized to be able to delay gratification, empathize with others, etc., that person will maintain their ability to delay gratification (i.e., their self-control) throughout their lives. In this case, Gottfredson and Hirschi (1990) claim that "desocialization is rare" (p. 107). Thus, socialization continues to some extent throughout our lives, contributing to the maintenance, rather than attenuation of self-control over time.

A critical period for the development of self-control, according to the General Theory of Crime, is prior to elementary school, suggesting that self-control is formed as early as 5 years of age (Gottfredson & Hirschi, 1990: 229).

According to the postulates of the General Theory of Crime, it should be possible to identify persons who fail to develop self-control (i.e., they experience ineffective socialization by parents and the school system) because their low self-control manifests itself in criminal ways and non-criminal but analogous ways, with a relatively high frequency. In this case, people with low self-control tend to commit crimes, get into accidents, smoke, drink, etc. throughout their lives. Thus, even though opportunity structures may change over time, or people may "slow down" as they age, their criminality should still be evident at a greater frequency relative to individuals with high levels of self-control.

Sex offenders are often not detected by the criminal justice system until they are well into their middle years (e.g., the average age of a sex offender is 38). The fact that sex offenders tend to be older than the majority of criminals committing property and violent crimes suggests that sex offenders do not "outgrow" the propensity to commit crimes with age. The General Theory of Crime would attribute offending in later years to a lack of self-control which is stable over the life course. Unfortunately, this contention cannot be tested because the present research does not include a control group of individuals who have not committed sexual offences with which to compare the sample.

To determine whether sex offenders have lower levels of self-control relative to individuals who do not commit crimes, the sex offender literature would benefit from research that used a matched group of known sex offenders with a comparable control sample of non-offenders (i.e., individuals who have not been identified by the criminal justice system). In this case, it would be possible to determine whether (and to what extent) levels of self-control differ between sex offenders and people who have not been identified as sexual offenders.

Despite this shortcoming, the present study was enhanced through its utilization of a group of known sex offenders who have already been extensively studied. In this case, it was possible to create measures of self-control which pertain to different stages in the lives of a group of known sex offenders in order to examine stability in self control over time. Hence, Hypothesis 2: Consistent with the General Theory of Crime, early measures of self-control will predict later ones.

Results of descriptive analyses presented in Chapter 4 are generally supportive of the notion of stability in self-control over time. Specifically, manifestations of low self-control in sex offenders were evident during early school years, adulthood, and following treatment in the Phoenix Program. Rapists, in particular, showed evidence of low levels of self-control in childhood with 86% experiencing some kind of trouble in school. Similarly, 78% of rapists experienced job instability in adulthood. Further, 40% of the rapists re-offended with a criminal offence within 5 years of discharge from treatment for sex offending.

Correlational analyses are also supportive of stability in self-control, but to a lesser degree. Early indicators of self-control (e.g., level of trouble in school, school expulsion, quitting, failing a grade) were associated with measures of self-control in adulthood (e.g., job instability). Consistent with the General Theory of Crime's conceptualization of someone who lacks self-control, individuals who are unable to persist in educational pursuits (i.e., they quit school early) are also unable to secure and maintain steady employment in adulthood. However, as noted in Chapter 5, there are several alternative explanations for the associations between the behaviors in childhood and adulthood. For example, quitting school early may be the end result of factors unrelated to self-control such as family obligations or medical conditions.

Similarly, people may fail grades for reasons other than a lack of self-control. One student may be kept back a grade in school as a result of an extended illness. Another student may fail a grade due to absences related to the death of a close family member. In both cases, failed grades were due to extended absences that result from circumstances that operate independent of levels of self-control. Extended absences that result in failed grades may contribute to inadequate job preparation since the students are likely to have missed important opportunities to develop skills that are later required by their prospective employers. In this case, a relationship between failed grades and job instability would be attributed to school attendance than self-control.

Stability in self-control among sex offenders was also assessed by examining associations between early school behaviors and Phoenix Program treatment completion (Hypothesis 4). In this case, quitting school was the only measure of self-control related to treatment completion. Quitting school increased the likelihood of terminating treatment in this sample of sex offenders.

Although the relationship between ending school and ending treatment is consistent with the earlier finding that quitting school leads to an inability to maintain stable employment, the General Theory of Crime cannot explain why there is no correspondence between treatment completion and any other measure of self-control from childhood. Recall that Gottfredson and Hirschi (1990) specifically include truancy and school performance in their discussion of behaviors that are predictive of subsequent manifestations of self-control (p. 106). Yet, this research found no association between failing a grade, trouble in school, or school expulsion and treatment completion.

Similarly associations between indicators of self-control in childhood and measures of recidivism in adulthood were weak or non-existent in this sample of sex offenders (Hypothesis 3). Trouble in school was the only early measure of self-control that related to the commission of crimes following treatment. Trouble in school was positively associated with reoffending, and more specifically, trouble in school was related to violent recidivism, parole violations, and alcohol or drug-related offences. Again, the General Theory of Crime falls short of its claims.

Although early research reported negative relationships between school performance (e.g., high grades) and subsequent delinquency (e.g., Stinchcombe, 1964; Wootton, 1959), this study found no relationship between a lack of school performance (e.g., failing a grade) and subsequent criminality (Chapter 5). According to the General Theory of Crime, measures of association between self-control in early childhood (e.g., trouble in school, failing a grade) and recidivism should be as strong as relationships involving self-control in adulthood (e.g., job instability) because individual differences in self-control are purportedly stable over time.

The General Theory of Crime contends that crime can be predicted from manifestations of low self-control at any early stage of life. Yet, there were no associations between quitting school, failing a grade, or being expelled from school and measures of crime in adulthood (i.e., recidivism for violent offences, property crimes, sexual offences, etc.). Moreover, the General Theory of Crime's stability postulate implies that self-control generalizes across situations.

In this case, the association between trouble in school and violent recidivism should be strong, as should the relationship between trouble in school and sexual offences, or the relation between failing a grade and violent recidivism. The findings reported in this study do not support such an interpretation of the General Theory of Crime's stability postulate. Instead, the results only indicated weak associations between trouble in school and a few measures of recidivism (not including sexual offences). Since the purpose of this study was to assess how well the General Theory of Crime explains sex offending, the failure to find any correspondence between early measures of self-control and recidivism for sexual offences is especially problematic.

The General Theory of Crime's stability postulate was also assessed through associations between indicators of self-control that occur closer in time to the dependent measures. In this case, it was expected that measures of self-control in adulthood (i.e., job instability, use of alcohol, use of drugs, etc.) would predict treatment completion and measures of recidivism following treatment. The only association between a measure of self-control in adulthood and treatment completion was an unexpected positive relationship between drug abuse and treatment completion. This finding cannot be adequately explained using the General Theory of Crime (see page 112 for a more detailed explanation).

Associations between measures of self-control in adulthood and measures of recidivism lend support for the General Theory of Crime's stability postulate. Job instability was positively associated with violent crimes, property offences, and drugs and alcohol offences. The use of alcohol (measured by both level of alcohol use and MAST scores) was also indicative of subsequent criminality, particularly parole violations and violent crimes. Similarly, the use of drugs (both hard and soft) was associated with the commission of crimes following treatment.

Measures of self-control in adulthood corresponded to measures of recidivism and these results are consistent with the predictions of the General Theory of Crime. However, the lack of correspondence between other measures of self-control (i.e., school behaviors) and the dependent measures (e.g., treatment completion) actually weakens The General Theory of Crime's claim to stability in self-control over time. Specifically, it can be argued that only measures of self-control that are very similar in nature to crime were associated in a meaningful way. For example, the use of drugs was related to recidivism for drugs, but failing a grade was not. Likewise, a positive association existed between level of alcohol use and the commission of crimes involving alcohol but there was no relationship between school expulsion and recidivism involving alcohol.

Including the early school measures of self-control provided a stronger test of the General Theory of Crime than previous attempts to test the theory, as the indicators were functionally independent from the dependent measures (e.g., refer to Aker's 1991 critique). Unfortunately, these measures did not predict recidivism. Instead, the indicators of self-control that are most conceptually similar to the dependent ones, proved to be the best predictors. Thus, the results of this study served to weaken Gottfredson and Hirschi's claim that self-control is the primary cause of crime.

Results from the multiple regression analysis reported in Chapter 5 confirmed this interpretation, providing virtually no support for Gottfredson and Hirschi's stability postulate. When the effects of other offender characteristics were controlled (e.g., age, number of prior offences), with the exception of alcohol abuse, coefficients for the regression of recidivism on measures of self-control were not statistically significant. When other offender characteristics were included in the analysis, the implications of the General Theory of Crime became even more apparent. The strongest predictor of recidivism was number of prior offences. This finding is not surprising, since it simply indicates that the commission of crimes predicts the commission of crimes.

Overall, these results suggest that self-control is not the primary cause of crime in sex offenders. The General Theory of Crime may have to be revised to include factors other than self-control if it is to stand up to Gottfredson and Hirschi's (1990) intention to "organize the facts about crime . . . in a coherent manner, telling us which are important and which are not worthy of attention" (p. 274).

The Versatility Postulate

This research also examined the General Theory of Crime's versatility postulate which argues that self-control manifests itself in a variety of unpredictable ways. Assuming equal opportunities to offend, the General Theory of Crime predicts that an individual who lacks self-control is as likely to commit a sex offence as he or she is to abuse drugs, get into accidents, or gamble away money. Thus, the General Theory of Crime claims there is no predictability in terms of criminal, delinquent, or analogous outcomes. Based on the assumption of versatility in manifestations of self-control, General Theory of Crime argues against claims of offence specialization, and thereby discredits the usefulness of offender typologies for predicting or preventing the commission of crimes.

The descriptive results presented in Chapter 4 showed that self-control in sex offenders was manifest in versatile ways (i.e., some offenders reported trouble in school while other did not; some offenders used drugs on a regular basis while others never consumed illegal drugs). The General Theory of Crime predicts this kind of versatility but makes no provision for predictable differs in degrees of self-control between sex offender sub-groups (i.e., rapists, incest offenders, pedophiles). Previous research on sex offenders finds differences between rapists and child molesters on behaviors that can be conceptualized as indicators of self-control (e.g., level of drug use). To be consistent with the literature on sex offender sub-types, the present test of the General Theory of Crime examined differences in self-control between sex offender sub-groups (i.e., rapists, incest offenders, pedophiles).

Hypothesis 5 stated: In contrast to the General Theory of Crime, but consistent with the previous research on sex offending, measures of self-control will differentiate between rapists, pedophiles, and incest offenders. My findings support this contention. Self-control differentiated between sex offender sub-types in predictable ways.

Rapists showed evidence of having much lower levels of self-control relative to child molesters on all of the measures (e.g., drug use, level of trouble in school, etc.). Although the pattern of findings for manifestations of self-control fit the General Theory of Crime's core notion of versatility for rapists, the same cannot be said of child molesters.

That is, rapists committed many different kinds of criminal and analogous acts with a high frequency over time. For example, rapists were more likely to be expelled from school and get into trouble at school relative to pedophiles and incest offenders. In addition rapists had higher levels of soft drug use relative to child molesters. Pedophiles and incest offenders committed fewer criminal and analogous behaviors than rapists. When rapists reoffended, they were likely to commit a variety of offences including a combination of sexual crimes, violent crimes, property offences, alcohol or drug-related crimes, and parole violations. Similarly, when incest offenders committed subsequent offences, they, like rapists, tended to engage in a variety of acts (e.g., sexual offences, violent offences, alcohol or drug-related crimes, etc.).

In contrast, to the extent that pedophiles committed subsequent offences, they tended to "specialize" in sexual offences against children. The General Theory of Crime's versatility postulate is seriously called into question by this pattern of findings. Although Gottfredson and Hirschi (1990) intended to put to rest the issue of typologies and career criminal perspectives, this test of the General Theory of Crime supports a revisitation of these issues for understanding and treating sex offenders.

Typologies in this study were useful for *identifying sub-groups of offenders with varying levels of self-control.* Specifically, rapists had much lower levels of self-control than child molesters (Chapter 4). For example, rapists were more likely to use soft drugs and alcohol at a higher frequency than child molesters. These findings are consistent with Bard, Carter, Cerce, Knight, Rosenberg, and Schneider's (1987) earlier research.

In addition, rapists were more likely than child molesters to get into trouble (e.g., fights) in school, be expelled from school, use illegal drugs of all kinds. Heterogeneity in the criminal and analogous behavior of rapists (versatility) is predicted by the General Theory of Crime as well as previous literature on rapists (e.g., Knight & Prentky, 1990; Quinsey, 1984). However, the predictable differences in levels of self-control across rapists and child molesters found in this study is not accounted for in the General Theory of Crime.

The explication of differences in self-control across sub-groups of offenders provides a rationale for explaining why some categories of offenders (e.g., rapists) have a much higher rate of recidivism relative to others (e.g., child molesters). Recidivism research seldom compares rapists and child molesters. Instead, recidivism rates are examined among only child molesters (Hanson, Steffy, & Gauthier, 1993; Marshall & Barbaree, 1988; Rice, Quinsey, & Harris, 1991), only rapists (Rice, Harris, & Quinsey, 1990), or with all kinds of offenders taken together (e.g., Maletzky, 1991). Subsequent research that compares sub-groups of rapists and child molesters on several measures of recidivism would be an important contribution to this area.

Results of my study shows that rapists are "generalists" in terms of the form that their recidivism takes. That is, the criminal behavior of rapists is versatile, in accordance with the assumptions of the General Theory of Crime. The rapists in this study were highly likely to re-offend, and when they committed a subsequent crime, that offence was just as likely to be a sexual crime such as a sexual assault, a violent offence such as an aggravated assault, a property crime, an alcohol or drug-related offence such as driving while under the influence, or a parole violation. Since rapists committed many different kinds of crimes and re-offended at a fairly high rate, a lengthy or terminal incarceration may be a viable means of protecting society from these individuals (see Floud, 1982, for a revisitation of incapacitation strategies).

Alternatively, sex offender treatment could be made mandatory for rapists (i.e., it is currently offered on a voluntary basis only). My findings provide some evidence to suggest that treatment completion reduced risk of re-offending, even for rapists, who had the lowest levels of self-control relative to incest offenders and pedophiles.

In terms of child molesters, the findings show that incest offenders were less likely to re-offend relative to rapists, but when they did commit a subsequent crime, they were most likely to be convicted of an alcohol or drug-related offence (e.g., impaired driving, possession of a narcotic). Similarly, pedophiles had a substantially lower likelihood of re-offending relative to the rapists, but in this case, they tended to "specialize" in sexual offences.

Studies that subdivide child molesters on the basis of gender of the victim showed a greater likelihood of recidivism for offenders with a homosexual orientation (i.e., preference for a same sex victim) rather than a heterosexual one (e.g., Frisbie & Dondis, 1965). Subclassifications of sex offenders on the basis of both relationship of the victim to offender and gender of the victim may result in greater sexual recidivism rates for certain sub-groups (i.e., homosexual pedophiles).

Limitations of the Present Study and Suggestions for Future Research

This study was based on information contained in the files of patients who underwent treatment for sex offending in adulthood. All secondary data analyses are subject to biases and inaccuracies in reporting and this study is no exception.

Information in patient files for different treatment years was not always consistent due to changes in procedures, administration, and/or staff members. In addition, this research was limited to information on sexual offences that resulted in convictions. Moreover, this study included only data on sex offenders who were admitted to the Phoenix Program for sex offending treatment. Finally, the information contained in patient files was transcribed from offender recollections shared in therapy sessions and interviews, and thus, was far removed from the actual crimes committed.

However, this data source also had important benefits in comparison to samples that underlie previous tests of the General Theory of Crime. Most of the previous research on sex offending relied on delinquency data for juveniles (e.g., Polakowski [1994] used the Cambridge Study in Delinquency Development) or some form of Census data (e.g., 13th Annual Oklahoma City Survey was used by Grasmick et. al, 1994). In either case, the sample was representative of data skewed in the direction of self-control with little variation in the dependent measures (i.e., criminal and delinquent outcomes). In other words, these samples consisted of individuals who were, for the most part, non-criminal. The sex offender sample I used consisted of adult males with a history of criminal activity (i.e., at the very least, they had committed one sex offence that resulted in conviction).

My sample was biased in the direction of criminality, rendering it possible to examine versatility in criminal outcomes in a group of sex offenders. In addition, information in patient files traced various stages in the life histories of sex offenders such that stability in low self-control could be assessed. An improvement over this secondary analysis (which included longitudinal data) would be a study that incorporated measures that correspond to life events that precede the development of self-control. In this case, indicators of family attachments, resources, interaction patterns, etc. may help determine how and when self-control develops.

In addition, an assessment of the role of opportunity is important for understanding the context in which crimes take place. It would be beneficial to examine the impact of early indicators and opportunities on criminal and deviant acts independent of and in conjunction with the effects of self-control.

Finally, Gottfredson and Hirschi contend that the General Theory of Crime applies across the life course. Specifically, they argue that socialization is of paramount importance in early childhood for the development of self-control, that various social control mechanisms become important for understanding criminality in adolescence, and that more natural forms of control (e.g., biological, physical) play a key role in preventing or reducing crime in adulthood (see Gottfredson & Hirschi, 1990: 115). However, they never develop the role of natural or social control in preventing crime commission and do not explain how social control and/or self-control might interact with opportunity structures to prevent crime.

A life course perspective, such as the one offered by Sampson and Laub (1993), examines age-related stages in people's lives (e.g., marriage, child birth) in order to try and determine how bonds and roles attached to these stages impact on people's life choices. A life course analysis looks at the duration and timing of major events to try and determine their impact on later social development (or lack of it).

In the life of a pedophile, it would be useful to know when an attraction to children developed. It may be important to note whether a pedophile failed to develop through the courtship and marriage cycle that most people experience by their early twenties. And, if pedophiles do not engage in age-appropriate social relationships with members of the opposite sex, can other kinds of events be identified that account for this omission (e.g., they were victims of sexual abuse). A life course perspective could help delineate important life transitions that differentially affect sex offenders' ability to resist crime, irrespective of levels of self-control.

In conclusion, this research examined the applicability of Gottfredson and Hirschi's General Theory of Crime for explaining sex offending. By treating self-control as a variable that operates on a continuum from low to high, results of this study contribute to our understanding of the General Theory of Crime's central concept. My findings show variations in self-control within sex offenders. Such variations in self-control *within criminal groups* are not accounted for in Gottfredson and Hirschi's theory which is limited to a dichotomous distinction between criminals (with low self-control) and non-criminals (with high self-control). The General Theory of Crime needs to be re-specified to account for variations in self-control within criminals.

Moreover, the results of this study seriously question the merit of using self-control as a global explanation for crime. The General Theory of Crime argues that self-control develops early on and remains stable throughout people's lives. Yet, in the present study, most early measures of self-control were not associated with later ones. In addition, none of the measures of self-control that were functionally independent of crime (e.g., failing a grade) were strong predictors of criminal behavior. In fact, the best indicators of criminal activity were other forms of criminal activity. For example, drug use predicted recidivism for drug offences and number of prior offences was the best predictor of recidivism for any offence. This suggests that variables other than self-control, such as opportunity, need to be more strongly emphasized in a reformulation of the General Theory of Crime.

Although self-control was not a strong predictor of crime, it does have limited applicability to furthering our understanding of sex offending. There were differences in self-control between sex offender types. Rapists have lower self-control relative to incest offenders, who in turn have lower self-control relative to pedophiles. Such differences in self-control have implications for predicting recidivism. Rapists are most likely to reoffend, and when they do, they are just as likely to commit a non-sexual offence as a sexual one. Pedophiles, on the other hand, are far less likely to reoffend, but when they do, it will be a sexual offence. Differences in self-control also suggest that the optimal treatment protocol for sex offenders may vary by offender type. Thus, the General Theory of Crime needs to reconsider its stance against the usefulness of typologies for explaining and preventing crime.

Footnotes

[1] Recidivism rates (or rates of re-offending) were calculated using 98 studies involving a total of 28,805 sex offenders.

[2] Hard-core pornography, as distinguished from soft-core pornography and erotica, typically emphasizes aggression in males, powerlessness in females, and non-consensual, sexual acts (Bowen, 1987). Further, hard-core pornography tends to encourage both sexual stereotyping and violence towards women (Ashley and Ashley, 1985).

[3] Zero-order correlations for sex offender characteristics (i.e., age, education, marital status, ethnicity, number of prior offences, number of prior sex offences, jail term, length of probation, number of months in treatment, post-discharge prison term, and length of post-discharge probation) are shown in Table 1, Appendix B.

[4] Zero-order correlations between sex offender characteristics (i.e., age, education, marital status, ethnicity, number of prior offences, number of prior sex offences, jail term, length of probation, number of months in treatment, post-discharge prison term, and length of post-discharge probation) and measures of low self-control (failed a grade, quit school, expelled, level of trouble in school, job instability, level of alcohol use, level of soft drug use, level of hard drug use, prescription drug abuse, MAST scores, DAST scores) are shown in Table 2, Appendix B.

[5] Zero-order correlations between all of the dependent measures (i.e., offender types, treatment completion, recidivism for all crimes, recidivism for sexual offences, non-sexual recidivism, violent recidivism, property crime, alcohol or drug recidivism, parole violations, or other forms of re-offending) are shown in Table 3, Appendix B.

[6] Zero-order correlations between indicators of self-control and dependent measures are shown in Table 4, Appendix B.

[7] Zero-order correlations between sex offender characteristics and dependent measures are shown in Table 5, Appendix B.

[8] The alpha to enter a variable was set at .05 and the alpha for removal was .10.

[9] Recidivism is a ratio-level measure that is dichotomized in Table 22 for clarity of presentation across sex offender sub-types. In its original form (i.e., ratio level of measurement), mean recidivism values across sex offender types are less than 1. For example, for alcohol and drug charges, the mean for rapists is .13. By dichotomizing the measure, findings for alcohol and drug charges now indicate that 10 % of rapists committed one or more alcohol or drug-related offence.

References

Abel, G. G., Becker, J. V. Mittelmann, M., Cunningham-Rathner, J., Rouleau, J. L., & Murphy, W. D. (1987). Self-reported sex crimes of nonincarcerated paraphiliacs. *Journal of Interpersonal Violence, 2,* 3-25.

Akers, R. L. (1985). *Deviant Behavior: A Social Learning Approach*. Belmont: Wadsworth.

Akers, R. L. (1991). Self-control as a general theory of crime. *Journal of Quantitative Criminology, 7,* 201-11.

Allen, R. (1991). Preliminary crime statistics-1990. *Juristat Service Bulletin, 11(9).* Ottawa: Centre for Justice Statistics, Statistics Canada.

Amir, M. (1971). *Patterns in Forcible Rape: With Special Reference to Philadelphia, Pennsylvania, 1958 and 1960.* Unpublished thesis. Michigan: University Microfilms, Inc.

Arneklev, B. J., Grasmick, H. G., & Tittle, C. R. (1993). Low self-control and imprudent behaviour. *Journal of Quantitative Criminology, 9,* 225-247.

Ashley, B. & Ashley, D. (1984). Sex as violence: The body against intimacy. The International Journal of Women's Studies, 7, 352-371.

Bandura, A. (1965). Influence of models' reinforcement contingencies on the acquisition of imitative responses. *Journal of Personality and Social Psychology, 1,* 589-595.

Bandura, A. (1973). *Aggression: A Social Learning Analysis*. New Jersey: Prentice-Hall, Inc.

Bandura, A. (1978). Social learning theory of aggression. *Journal of Communication, 28,* 12-29.

Bard, L. A., Carter, D. L., Cerce, D. D., Knight, R. A., Rosenberg, R., & Schneider, B. (1987). A descriptive study of rapists and child molesters: Developmental, Clinical, and Criminal Characteristics. *Behavioral Sciences and the Law, 5,* 203-220.

Barlow, H. D. (1991). Explaining crimes and analogous acts, or the unrestrained will grab at pleasure whenever they can. *Journal of Criminal Law and Criminology, 82*, 229-242.

Blum, K. Cull, J. G., Braverman, E. R., & Comings, D. E. (1996). Reward deficiency syndrome. *American Scientist, 84,* 132-145.

Boritch, H. (1997). *Fallen Women: Female Crime and Criminal Justice in Canada.* Toronto: ITP Nelson.

Bowen, N. (1987). Pornography: Research review and implications for counseling. *Journal of Counseling and Development, 65,* 345-350.

Brookover-Bourque, L. (1989). *Defining Rape*. London: Duke University Press.

Brownfield, D. & Sorenson, A. M. (1993). Self-control and juvenile delinquency: Theoretical issues and an empirical assessment of selected elements of a general theory of crime. *Deviant Behaviour, 14,* 243-264.

Brownmiller, S. (1975). *Against Our Will: Men, Women, and Rape.* New York: Simon & Schuster.

Clark, L. & Lewis, D. (1977). *Rape: The Price of Coercive Sexuality.* Toronto: The Woman's Press.

Clelland, S., Studer, L., H., & Reddon, J. R. (1997). Mimeographed. Follow-up of rapists treated in a forensic psychiatric hospital.

Cohen, L. E. & Felson, M. (1979). Social change and crime rate trends: A routine activity approach. *American Sociological Review, 44,* 588-608.

Comack, E. (1996). Women and Crime. In R. Linden. (Ed.). *Criminology: A Canadian Perspective, Third Edition, pp. 139-175* Toronto: Harcourt Brace Canada.

Conte, J. R. (1990). The incest offender: An overview and introduction. In A. Horton, B. Johnson, L. Roundy, and D. Williams. (Eds.). *The Incest Perpetrator: A Family Member No One Wants to Treat.* London: Sage Publications.

Cooper, I. & Cormier, B. (1990). Incest. In R. Bluglass and P. Bowden. (Eds.). *Principles and Practice of Forensic Psychiatry, pp. 749-765.* London: Churchill Livingstone.

Committee on Sexual Offences Against Children and Youth. (1984). *Sexual offences against children.* Ottawa: Canadian Government Publishing Company.

Communications Branch, Correctional Service Canada (1995). *Let's Talk, 20,* June, 1995.

Creechan, J. H. (1995). A test of General Theory of Crime: Delinquency and school dropouts. In J. H. Creechan and R. A. Silverman. (Eds.). *Canadian Delinquency.* Ontario: Prentice-Hall Canada Inc.

Ellis, L. (1991). A synthesized (biosocial) theory of rape. *Journal of Consulting and Clinical Psychology, 59,* 631-642.

Erickson, W. D., Walbek, N. H., & Seely, R. K. (1988). Behavior patterns of child molesters. *Archives of Sexual Behavior,* 17, 77-86.

Eysenck, H. J. (1983). A biometrical-genetical analysis of impulsive and sensation seeking behavior. In M. Zuckerman (Ed.). *Biological Bases of Sensation, Impulsivity, and Anxiety, pp. 1-27.* New York: Erlbaum.

Federal Ad hoc Interdepartmental Working Group on Information Systems on Child Sex Offenders, (1994). *Information systems on child sex offenders: A discussion paper.* Ottawa: Justice Canada, and the Ministry of the Solicitor General.

Floud, J. (1982). Dangerousness and criminal justice. *British Journal of Criminology, 22,* 213-28.

Forde, D. R. & Kennedy, L. W. (1997). Risky lifestyles, routine activities, and the General Theory of Crime. *Justice Quarterly, 14,* 301-331.

Gebhard, P., Gagnon, J., Pomeroy, W., & Christenson, C. (1965). Sex Offenders: An Analysis of Types. New York: Harper & Row.

Glasser, M. (1990). Paedophilia. In R. Bluglass and P. Bowden. (Eds.). *Principles and Practice of Forensic Psychiatry, pp. 749-765.* London: Churchill Livingstone.

Gottfredson, M. R. & Hirschi, T. (1990). *A General Theory of Crime.* Stanford: Stanford University Press.

Grasmick, H. G., Tittle, C. R., Bursik, R. J., & Arneklev, B. J. (1993). Testing the core empirical implications of Gottfredson and Hirschi's General Theory of Crime. *Journal of Research in Crime and Delinquency, 30,* 5-29.

Groth, A. N. (1979). *Men Who Rape: The Psychology of the Offender.* New York: Plenum Press.

Groth, A. N. & Birnbaum, H. J. (1978). Adult sexual orientation and attraction to underage persons. *Archives of Sexual Behavior, 7,* 175-181.

Groth, A. N., Hobson, W.F., & Gary, T. S. (1986). The child molester: Clinical observations. In Dawn C. Haden (Ed.). *Out of Harm's Way: Readings on Child Sexual Abuse, Its Prevention and Treatment.* Phoenix: Oryx Press.

Hathaway, S. R. & McKinley, J. C. (1991). *Minnesota Multiphasic Personality Inventory - 2.* Minnesota: University Of Minnesota Press.

Hanson, R. K. & Bussiere, M. T. (1996). Sex offender risk predictors: A summary of research results. *Forum on Corrections Research, 8,* 10-12.

Hinch, R. (1996). Conflict and Marxist Perspectives. In R. Linden. (Ed.). *Criminology: A Canadian Perspective, Third Edition, (pp. 293-324)* Toronto: Harcourt Brace Canada.

Hindelang, M. J., Gottfredson, M. R., & Garofalo, J. (1978). *Victims of Personal Crime: An Empirical Foundation for a Theory of Personal Victimization.* Cambridge: Ballinger.

Hirschi, T. (1969). *Causes of Delinquency.* Berkeley: University of California Press.

Hirschi. T. & Gottfredson, M. (1993). Commentary: Testing the General Theory of Crime. *Journal of Research in Crime and Delinquency, 30,* 47-54.

Holmes, R. M. (1991). *Sex Crimes.* London: Sage Publications.

Keane, C., Maxim, P. S., & Teevan, J. J. (1993). Drinking and driving, self-control, and gender: Testing a General Theory of Crime. *Journal of Research in Crime and Delinquency, 30,* 30-46.

Kirkby, L. (1996). Personal communication between the author and the Phoenix Program Manager (Leslie Kirby), December.

Kirkby, L. & Milne, D. (1995). Personal communication between the author and the Phoenix Program Manager (Leslie Kirby) and the Phoenix Program Director (Denise Milne), *Alberta Hospital Edmonton*, November.

Knight, R. A., Rosenberg, R., & Schneider, B. A. (1985). Classification of sexual offenders: Perspectives, methods and validation. In A. Wolbert Burgess (Ed.). *Rape and Sexual Assault: A Research Handbook.* New York: Garland Publishing, Inc.

Knight, R. A., & Prentky, R. A. (1990). Classifying sexual offenders: The development and corroboration of taxonomic models. In W. L. Marshall, D. R. Laws, & H. E. Barbaree (Eds.). *The Handbook of Sexual Assault: Issues, Theories, and Treatment of the Offender, (pp. 23-52).* New York: Plenum Press.

Malamuth, N. & Ceniti, J. (1986). Repeated exposure to violent and nonviolent pornography: Likelihood of raping ratings and laboratory aggression against women. *Aggressive Behavior, 12,* 129-137.

Maletzky, B. M. (1991). The use of medroxyprogesterone acetate to assist in the treatment of sexual offenders. *Annals of Sex Research, 4,* 117-129.

Marshall, W. L. & Barret, S. (1990). *Criminal Neglect: Why Sex Offenders Go Free.* Toronto: Doubleday Canada Ltd.

Mayer, A. (1985). *Sexual Abuse: Causes, Consequences and Treatment of Incestuous and Pedophilic Acts*. Florida: Learning Publications, Inc.

Mehrabian, A. & Epstein, N. (1972). A measure of emotional empathy. *Journal of Personality, 40,* 525-543.

Messerschmidt, J. (1986). *Capitalism, Patriarchy, and Crime: Toward a Socialist Feminist Criminology*. New Jersey: Roman and Littlefield.

Mischel, W. (1966). Theory and research on the antecedents of self-imposed delay of reward. In B. A. Maher, (Ed.). *Progress in Experimental Personality Research, (Volume 3).* New York: Academic Press.

Michel, W. (1974). Processes in the Delay of Gratification. In L. Berkowitz (Ed.). *Advances in Experimental Social Psychology, (Volume 7).* New York: Academic Press.

Mischel, W. (1968). *Personality and Assessment*. New York: Wiley.

Motiuk, L. & Belcourt, R. (1996). Profiling the Canadian federal sex offender population. *Forum on Corrections Research, 8,* 3-7.

Newcomb, T. M. (1929). *The Consistency of Certain Extrovert-Introvert Behavior Patterns in 51 Problem Boys.* New York: Columbia University, Teachers College, Bureau of Publications.

Novaco, R. W. (1994). Anger as a risk factor among the mentally disordered. In J. Monahan and H. J. Steadman (Eds.). *Violence and Mental Disorders,* 21-59. Chicago: University of Chicago Press.

Petty, G. M. , Jr. & Dawson, B. (1989). Sexual aggression in normal men: Incidence, beliefs, and personality characteristics. *Personality and Individual Differences, 10,* 355-362.

Polakowski, M. (1994). Linking self and social control with deviance: Illuminating the structure underlying a General Theory of Crime and its relation to deviant activity. *Journal of Quantitative Criminology, 10,* 41-78.

Prentky, R. A. & Knight, R. A. (1991). Identifying critical dimensions for discriminating among rapists. *Journal of Consulting and Clinical Psychology, 59,* 643-661.

Quinsey, V. L. (1986). Men who have sex with children. In D.N. Westub. (Ed.). *Law and Mental Health: International Perspectives, Vol. 2, pp. 140-172.* New York: Pergamon.

Quinsey, V. L. (1984). Sex aggression: Studies of offenders against women. In D. Weisstub (Ed.). *Law and Mental Health: International Perspectives , Vol 1, pp. 84-121* New York: Pergamon.

Rapaport, K. & Burkhart, B. R. (1984). Personality and attitudinal characteristics of sexually coercive college males. *Journal of Abnormal Psychology, 93,* 216-221.

Reddon, John R. (1994). An evaluation of the Phoenix Program for sex offender treatment. *Final Report for Corrections Research Ministry Secretariat,* December, 1994.

Research and Statistics Branch, Correctional Service of Canada (1991). Everything you wanted to know about Canadian federal sex offenders and more. *Forum on Corrections Research, 3,* 3-6.

Research and Statistics Branch, Correctional Service of Canada (1995). *Let's Talk, 20,* June, 1995.

Rice, M. E., Quinsey, V. L. & Harris, G. T. (1991). Sexual recidivism among child molesters released from a maximum security psychiatric institution. *Journal of Consulting and Clinical Psychology, 59,* 381-386.

Ross, L. & Nisbett, R. E. (1991). *The Person and the Situation: Perspectives of Social Psychology.* Toronto: McGraw-Hill Publishing Company.

Salter, A. C. (1988). *Treating Child Sex Offenders and Victims: A Practical Guide.* London: Sage Publications.

Scheffe, H. A. (1953). A method for judging all possible contrasts in the analysis of variance. *Biometrika, 40,* 87-104.

Scheffe, H. A. (1959). *The Analysis of Variance*. New York: Wiley.

Scott, Cst. A. & Weir-Brown, P. (1996). *Sexual Assault and Victims Services.* Guest lectures in Sociology 100, Grant MacEwan Community College, Fall.

Selzer, M. L. (1971). The Michigan alcohol screening test: The quest for a new diagnostic instrument. *American Journal of Psychiatry, 127,* 89-94.

Skinner, H. A. (1982). The drug abuse screening test. *Addictive Behaviors, 7,* 363-371.

Stinchcombe, A. (1964). *Rebellion in a High School*. Chicago: Quadrangle.

Studer, L. H. (1995). Personal communication between the author and the chief psychiatrist (Dr. Lea Studer) of the Phoenix Program, *Alberta Hospital Edmonton,* March.

Studer, L. H., Reddon, J. R., Roper, V., & Estrada, L. (1996). Phoenix: An in-hospital program for sex offenders. *Journal of Offender Rehabilitation, 23,* 91-97.

Ward, S. K., Dziuba-Leatherman, C., Stapleton, J. G., & Yodanis, C. L. (1994). *Acquaintance and Date Rape: An Annotated Bibliography*. Westport: Greenwood Press.

Wootton, B. (1959). *Social Science and Social Pathology*. New York: Macmillan.

Wormith, J. S. (1991). The treatment of sexual offenders in Canada. *Canadian Psychology, 33,* 180-196.

Zuckerman, M. (1993). Sensation seeking and impulsivity: A marriage of traits made in biology? In W. G. McCown, J. L. Johnson, and M. B. Shure, (Eds.). *The Impulsive Client: Research, Theory and Treatment, pp. 71-91.* Washington: American Psychological Association.

Appendix A

Data Collection Instrument

A. Demographics and Criminal History:

1. File Number: __________
2. Age: _____
3. Race: __________
4. Height (cm.): _____
5. Weight (kg.): _____
6. Religion: ___________________
7. Date Began Treatment: M __ D __ Y ____
8. Date Ended Treatment: M __ D __ Y ____
9. Number Previous Admissions/Discharges to/from Program
10. Jail Term (months): _____
11. Probation (months): _____
12. Number of Victims (index offense): ______
13. Victim Age (index offense): _____
14. Victim Sex (index offense): _____

    M male

    F female
15. Victim (index offense) Relation to Offender: _____
    1. son/daughter (natural)
    2. son/daughter (step, adopted, etc.)
    3. other relative
    4. acquaintance
    5. stranger
16. Approach to Victim (index offense): _____
    1. enticement
    2. verbal coercion/persuasion

3. threat

4. physical force

5. physical force with weapon

17. Marital Status: ____

1. married

2. single

3. common-law

4. divorced

5. separated

6. widowed

18. Education (years of grade school): ____

19. Completed Treatment Program: ____

1. yes

2. no

20. If no, Reason Treatment Not Completed: ____

1. inadequate motivation

2. patient request

3. legal transfer or release.

4. unacceptable behavior

21. Discharged to: ____

1. home

2. correctional facility

3. other institution/unit

22. Post Discharge Probation or Parole (months): ____

23. Prison Time Remaining Post Discharge (months): ____

24. Number of Prior Non-sexual Offenses: ____

25. Number of Prior Sex Offenses: ____

B. Diagnostic Tests:

Endocrine Function

26. Testosterone (nmol/L):___
27. Prolactin (ug/L): _____
28. FSH (IU/L): _____
29. LH (IU/L): _____
30. SHBG (nmol/L): _____
31. Percent Free Testosterone: _____

Laboratory Results

32. Calcium (nmol/L): _____
33. Phosphorous (nmol/L): _____
34. Glucose (nmol/L): _____
35. Urea (nmol/L): _____
36. Uric Acid (umol/L): _____
37. Cholesterol (mmol/L): _____
38. Total Protein (gm/L): _____
39. Albumin (gm/L): _____
40. Total Bilirubin (umol/L): _____
41. Alkaline Phosphatase (umol/L): _____
42. Lactic Dehydrogenase (IU/L): _____
43. Aminotransferase (IU/L): _____

Psychological Test Results

44. Michigan Alcoholism Screening Test (MAST): ____
45. Drug Abuse Screening Test (DAST): _____
46. WAIS-R Verbal IQ: _____

Information: _____

Digit Span: _____

Vocabulary: _____

Arithmetic: _____

Comprehension: _____

Similarities: _____

47. WAIS-R Performance IQ: _____

Picture Completion: _____

Picture Arrangement: _____

Block Design: _____

Object Assembly: _____

Digit Symbol: _____

48. WAIS-R Full Scale IQ: ______

49. Buss Durkee Hostility Inventory:

Negativism (NE): _____

Resentment (RE): _____

Indirect Hostility (IN): _____

Assault (AS): _____

Suspicion (SU): _____

Verbal Hostility (VE): _____

Irritability (IR): _____

Total: _____

C. Indicators of Patient Change

50. Group Progress (Quantity) INITIAL: ____________________

51. Group Progress (Quantity) POST: ______________________

52. Group Progress (Past Dev. Beh.) INITIAL: _______________

53. Group Progress (Past Dev. Beh.) POST: _________________

54. Group Progress (Present Dev. Beh.) INITIAL: ___________

55. Group Progress (Present Dev. Beh.) POST: ______________

56. Group Progress (Severity Dev. Beh.) INITIAL: ___________

57. Group Progress (Severity Dev. Beh.) POST: ______________

58. Group Progress (Responsibility Dev. Beh.) INITIAL: ____

59. Group Progress (Responsibility Dev. Beh.) POST: __

60. Group Progress (Remorse/Empathy) INITIAL: ________

61. Group Progress (Remorse/Empathy) POST: ___________

62. Group Progress (Desire Change) INITIAL: __________

63. Group Progress (Desire Change) POST: _____________

64. Group Progress (Reduction Dev.) INITIAL: _________

65. Group Progress (Reduction Dev.) POST: ____________

66. Group Progress (Precursors/Patterns) PRE: ________

67. Group Progress (Precursors/Patterns) POST: _______

68. Group Progress (Approp. Behavior in Hrs) INITIAL:

69. Group Progress (Approp. Behavior in Hrs) POST: ___

70. Group Progress (Approp. Emotions) INITIAL: _______

71. Group Progress (Approp. Emotions) POST: __________

72. Group Progress (Approp. Behaviors) INITIAL: ______

73. Group Progress (Approp. Behaviors) POST: _________

74. Group Progress (Evidence of Change) INITIAL: _____

75. Group Progress (Evidence of Change) POST: ________

76. MMPI Pre Form Type (1 or 2): _____

77. MMPI PRE L: ____

78. MMPI PRE F: ____

79. MMPI PRE K: ____

80. MMPI PRE 1: ____

81. MMPI PRE 2: ____

82. MMPI PRE 3: ____

83. MMPI PRE 4: ____

84. MMPI PRE 5: ____

85. MMPI PRE 6: ____

86. MMPI PRE 7: ____

87. MMPI PRE 8: ____

88. MMPI PRE 9: ____

89. MMPI PRE 0: ____

90. MMPI Post Form Type (1 or 2): ____

91. MMPI POST L: ____

92. MMPI POST F: ____

93. MMPI POST K: ____

94. MMPI POST 1: ____

95. MMPI POST 2: ____

96. MMPI POST 3: ____

97. MMPI POST 4: ____

98. MMPI POST 5: ____

99. MMPI POST 6: ____

100. MMPI POST 7: ____

101. MMPI POST 8: ____

102. MMPI POST 9: ____

103. MMPI POST 0: ____

104. Beck Depression Inventory (BDI) PRE: _____

105. Beck Depression Inventory POST: ____

106. Novaco Anger Inventory (NAI) PRE: _____

107. Novaco Anger Inventory (NAI) POST: ____

108. Empathic Tendency scale PRE: _____

109. Empathy Tendency scale POST: ____

110. Sexuality Knowledge Questionnaire PRE: _____

111. Sexuality Knowledge Questionnaire POST: ____

112. Automatic Thoughts Questionnaire PRE:

Personal Maladjustment and Desire for Change: ____

Negative Self-concepts and Negative Expectations:

Low Self-esteem: _____

Helplessness: _____

Total: _____

113. Automatic Thoughts Questionnaire POST:

Personal Maladjustment and Desire for Change: _____

Negative Self-concepts and Negative Expectations: _____

Low Self-esteem: _____

Helplessness: _____

Total: _____

114. Frequency of Self-reinforcement Questionnaire PRE: ____

115. Frequency of Self-reinforcement Questionnaire POST: ___

116. Index of self-esteem PRE: _____

116. Index of self-esteem POST: ____

118. Assertiveness-Aggressiveness Inventory (AS) PRE: _____

119. Assertiveness-Aggressiveness Inventory (AS) POST: ____

120. Assertiveness-Aggressiveness Inventory (AGG) PRE: ____

121. Assertiveness-aggressiveness Inventory (AGG) POST: ____

122. Interpersonal Dependency Inventory PRE: _____

123. Interpersonal Dependency Inventory POST: ____

124. Self-efficacy Scale PRE: _____

125. Self-efficacy Scale POST: ____

126. Verbal Aggressiveness Scale PRE: _____

127. Verbal Aggressiveness Scale POST: ____

128. Problem Solving Inventory PRE: _____

129. Problem Solving Inventory POST: ____

130. Child's Attitude Toward Mother Scale PRE: _____

131. Child's Attitude Toward Mother Scale POST: ____

132. Child's Attitude Toward Father Scale PRE: _____

133. Child's Attitude Toward Father Scale POST: ____

134. Social Avoidance and Distress Scale PRE: _____

135. Social Avoidance and Distress Scale POST: ____

136. Fear of Negative Evaluation PRE: _____

137. Fear of Negative Evaluation POST: ____

138. Dysfunctional Attitude Scale PRE: _____

139. Dysfunctional Attitude Scale POST: ____

140. Sex Offender Situational Competency Test (SOSCT)

Total Situation: _____

Mean Situation: _____

Total Effectiveness: _____

Mean Effectiveness: _____

141. Sex Offender Situational Competency Test (SOSCT)

Total Situation: _____

Mean Situation: _____

Total Effectiveness: _____

Mean Effectiveness: _____

142. Costello-Comrey Depression & Anxiety Scale CCDAS

Depression: _____

Anxiety: _____

143. Costello-Comrey Depression & Anxiety Scale CCDAS

Depression: _____

Anxiety: _____

D. Patient Ratings

144. Yalom Card Sort (average rating):

Altruism: _____

Group Cohesiveness: _____

Universality: _____

Interpersonal Learning/Input: ____

Interpersonal Learning/Output: ___

Guidance: _____

Catharsis: _____

Identification: _____

Family Reenactment: _____

Self-Understanding: _____

Instillation of Hope: _____

Existential Factors: _____

E. Discharge Predictions (1=minimum, 2=moderate, 3=high)

145. Non-compliance with follow-up: _____

146. Re-offending within a year: _____

147. Re-offending ever: _____

F. Recidivism (CPIC results received Sept. 15, 1994)

148. Post Discharge Re-arrest for any Offense: _____

1. yes
2. no

149. Post Discharge Re-arrest for Sex Offense: _____

1. yes
2. no

150. Number Post-discharge Sexual Charges: _____

151. Number Post-discharge Violent, Non-sexual Charges: _____

152. Number Post-discharge Property Charges: _____

153. Number Post-discharge Alcohol/Drug Related Charges: ____

154. Number Post-discharge Parole Violator Charges: _____

155. Number Post-discharge Other Charges: _____

CODEBOOK

Testing a General Theory of Sex Offending

Principal Investigator:
Diane G. Symbaluk

NOTE: The following codes are designed in accordance with the Alberta Hospital Edmonton Research Centre's existing data file structure (e.g., blank spaces indicate missing data).

Var	Variable Name	Variable Description and Labels
V319	**FAILED GRADE**	**Did offender ever fail a grade while in school? (1=yes; 2=no; blank=unknown)**
V320	**EXPELLED**	**Was offender ever expelled from school for any reason? (1=yes; 2=no; blank=unknown)**
V321	**QUIT SCHOOL**	**Did the offender ever quit school before completing grade 12? (1=yes; 2=no; blank=unknown)**
V322	**SCHOOL TROUBLE**	**Level of school trouble experienced by offender. This pertains to social history interviews in which the offender is asked about his early school years. (0=no trouble indicated; 1=one source of school trouble listed in files (e.g., skipping school, fighting, truancy, etc.); 2=two or more sources of trouble; 3=was expelled from school on at least one occasion)**

V323	JOB INSTABILITY	Level of job instability experienced by offender. This pertains to the number and length of jobs in the offender's history (as assessed by social workers and occupational therapists). (0=stable work history including mainly full-time employment for long periods (e.g., more than two years); 1=stable work history of mainly part-time employment or steady employment in short-term jobs (e.g., seasonal trades); 2=one of the following criteria must be met: has been on unemployment for extended durations (e.g., more than 6 months); was fired from one job, works intermittently (e.g., for two months on and off) 3=one of the following criteria must be met: quit at least two jobs, or was fired from at least two jobs; has never been employed, has held 20 or more jobs, etc.
V324	ILLEGAL DRUGS	Has offender ever used illegal (non-prescription) drugs? (1=yes; 2=no; blank=unknown)
V325	SOFT DRUGS	Has offender ever used soft drugs? (e.g., marijuana, hashish, oil) (1=yes; 2=no; blank=unknown)
V326	AGE S DRUGS	Age at which offender first used soft drugs. (in years; blank=unknown)
V327	S DRUG USE	Level of offender's soft drug use. (0=does not use s drugs; 1=has experimented with soft drugs (e.g., tried them once or twice); 2=uses soft drugs on occasion; 3=uses soft drugs regularly (e.g., at least once a month)
V328	HARD DRUGS	Has offender ever used hard drugs? (e.g., cocaine, LSD, heroin) (1=yes; 2=no; blank=unknown)

V329	AGE H DRUGS	Age at which offender first used hard drugs. (in years; blank=unknown)
V330	H DRUG USE	Level of offender's hard drug use. (0=does not use h drugs; 1=has experimented with hard drugs (e.g., tried them once or twice); 2=uses hard drugs on occasion; 3=uses hard drugs regularly (e.g., at least once a month)
V331	ALCOHOL	Does offender consume alcohol? (1=yes; 2=no; blank=unknown)
V332	AGE ALCOHOL	Age at which offender first used alcohol (in years; blank=unknown)
V333	ALCOHOL USE	Level of offender's alcohol consumption. (0=does not consume alcohol; 1=social drinker (e.g., less than 4 drinks on any one occasion and drinks very infrequently; 2=moderate drinker (e.g., reports being intoxicated on occasion, drinks on a weekly basis); 3=abuses alcohol (e.g., is diagnosed with an alcohol abuse problem, is a member of a.a., has a history of blackouts related to drinking, drinks on a daily basis)
V334	PLANNED	Did offender plan his sex offence(s) in advance? (Re: offence(s) pertaining to conviction prior to sex offender treatment) (1=yes; 2=no; blank=unknown)

V335	PLANNING LEVEL	Level of planning in sex offence(s). (Re: offence(s) pertaining to conviction prior to sex offender treatment) (0=no planning; 1=planned after victim encounter (e.g., picked up hitchhiker and then decided to rape her 20 minutes later and drove to a remote area); 2=planned prior to victim encounter (e.g., intended to commit sexual assault, wanted to sexually assault victim for three months prior to assault); 3=detailed planning prior to victim encounter (e.g., offered to babysit victim, purchased toys to bribe victim, brought rope to tie up victim, etc.)
V336	INTERPERSONAL PROBLEMS	Level of relationship difficulty experienced by offender. (0=offender is in a steady relationship with no reported problems (e.g., wife is still fully supportive despite conviction); 1=offender is in a steady relationship with one major source of conflict (e.g., financial trouble, communication problems, incompatible sexual drives, unsatisfactory sexual relations, etc.); 2=offender is in a steady relationship with two or more sources of conflict, or offender has recently divorced or separated from a spouse; or offender has not been in a relationship for a period of at least one year (3=offender has never had a relationship with a member of the opposite sex that lasted more than 2 months, or offender has been married more than 3 times.)
V337	PRESCRIPTION DRUG ABUSE	Does offender abuse prescription drugs? (1=yes (i.e., file contains evidence of prescription drug abuse in the form of offender admission); 2=no (i.e.. file contains no evidence of prescription drug abuse)

CODING SHEET

FILE NUMBER: ____________

319. OFFENDER FAILED A GRADE IN SCHOOL _____
320. OFFENDER WAS EXPELLED FROM SCHOOL _____
321. OFFENDER QUIT SCHOOL _____
322. LEVEL OF TROUBLE AT SCHOOL _____
323. LEVEL OF EMPLOYMENT INSTABILITY _____
324. OFFENDER HAS EVER USED ILLEGAL DRUGS _____
325. OFFENDER USES SOFT DRUGS _____
326. OFFENDER FIRST USED SOFT DRUGS AT AGE _____
327. FREQUENCY OF SOFT DRUG USE _____
328. OFFENDER USES HARD DRUGS _____
329. OFFENDER FIRST USED HARD DRUGS AT AGE _____
330. FREQUENCY OF HARD DRUG USE _____
331 OFFENDER USES ALCOHOL _____
332. OFFENDER FIRST USED ALCOHOL AT AGE _____
333. LEVEL OF ALCOHOL USE _____
334. OFFENDER PLANNED SEXUAL OFFENCE(S) IN ADVANCE _____
335. LEVEL OF PLANNING IN SEXUAL OFFENCE(S) _____
336. LEVEL OF DIFFICULTY WITH INTERPERSONAL RELATIONS _____
337. EVIDENCE OF PRESCRIPTION DRUG ABUSE _____

Appendix B

Table 1

Zero-order Correlations Among Offender Characteristics

		1	2	3	4	5	6	7	8	9	10	11
1.	**age**	.....	-.05	.05	-.14*	-.14*	-.00	-.05	.06	-.10	.14*	-.04
2.	**education**	-.05	.....	-.01	-.19**	-.08	.00	.04	-.03	.13*	-.09	.11
3.	**mstat**	.05	-.09	.....	.00	.09	-.01	-.01	-.03	-.01	-.03	.00
4.	**ethnicity**	-.14*	-.19**	.00	.....	.16**	-.03	.13*	-.12	-.07	.14*	-.07
5.	**nprior**	-.14*	-.08	.09	.16**	.....	.11	.04	-.06	.01	-.03	.00
6.	**nsprior**	-.00	-.00	-.01	-.03	.11	.....	.01	-.04	-.01	.04	-.10
7.	**jailterm**	-.05	.04	-.01	.13*	.04	.01	.....	-.23***	.18**	.40***	.04
8.	**probation**	.06	-.03	-.03	-.12	-.06	-.04	-.23***	.....	-.06	-.05	.37***
9.	**trmonths**	-.10	.13*	-.01	-.07	.01	-.01	.18**	-.06	.....	-.55***	.54***
10.	**postpris**	.14*	-.09	-.03	.14*	-.03	.04	.40***	-.05	-.55***	.....	-.56***
11.	**postprob**	-.04	.11	.00	-.07	.00	-.10	.04	.37***	.54***	-.56***	.....

NOTE: age = age in years; education = educational attainment in years; mstat = marital status; ethnicity = offender's ethnicity; nprior = total number of prior offences; nsprior = number of prior sex offences; jailterm = length of prison term in months; probation = length of probation in months; trmonths = length of treatment in the Phoenix Program in months; postpris = length of prison sentence following discharge from the Phoenix Program in months; postprob = length of probation following discharge from the Phoenix Program in months

*$p \leq .05$; **$p \leq .01$; ***$p \leq .001$ (two-tailed)

Table 2

Zero-order Correlations Among Offender Characteristics and Indicators of Self-Control

		age	educ	mstat	ethnicity	nprior	nsprior	jail	prob	trmonth	postpri	postpro
1.	**fail**	-.06	-.38***	.15*	.04	.13*	.03	.04	-.01	.05	.00	.04
2.	**quit**	-.04	-.42***	.06	.15*	.14*	.08	.08	-.01	.00	.10	-.10
3.	**expelled**	-.23***	.04	.05	.18**	.07	.01	.00	-.04	.10	-.18	.18
4.	**trouble**	-.31***	-.08	.11	.23***	.17**	.08	.04	-.06	.05	-.14*	.12
5.	**jobins**	-.38***	-.16**	.01	.26***	.20**	.24***	.05	-.04	-.03	-.05	.00
6.	**alcuse**	-.19**	-.06	.18**	.20**	.24***	.07	.08	-.18**	.07	-.02	.07
7.	**sdruguse**	-.46***	.16*	.11	.12	.22***	-.02	.08	-.11	.12	-.09	.12
8.	**hdruguse**	-.31***	.10	.10	.18**	.27***	.03	.12	-.07	.10	-.01	.07
9.	**prescrip**	.01	-.02	-.01	.06	.08	-.04	-.01	.00	-.12	.01	.03
10.	**MAST**	-.19*	.02	.09	.49***	.48***	.22**	.14	-.07	.01	.04	.08
11.	**DAST**	-.26**	.09	-.11	.28**	.22*	.05	.13	-.20	.12	-.08	.12

NOTE: fail = failed a grade; quit = quit school; expelled = expulsion from school on at least one occasion; trouble = level of trouble while at school; jobins = level of job instability; alcuse = level of alcohol use; sdruguse = level of soft drug use; hdruguse = level of hard drug use; prescrip = abuses prescription drugs; MAST = MAST score; DAST = DAST score; age = age in years; education = educational attainment; mstat = marital status; ethnicity = offender's ethnicity; nprior = total number of prior offences; nsprior = number of prior sex offences; jailterm = length of prison term in months; probation = length of probation in months; trmonths = length of treatment in the Phoenix Program; postpris = length of prison sentence following discharge from the Phoenix Program in months; postprob = length of probation following discharge from the Phoenix Program in months

*$p \leq .05$; **$p \leq .01$; ***$p \leq .001$ (two-tailed)

Table 3

Zero-order Correlations Among Dependent Measures

		1	2	3	4	5	6	7	8	9
1.	**offtype**	.....	-.03	.17**	.11	-.03	.20**	.09	.26***	.09
2.	**comptrt**	-.03	.....	-.13*	-.04	-.12	-.13*	-.12	-.13*	-.07
3.	**allcrime**	.17**	-.13*	.....	.54***	.61***	.67***	.66***	.31***	.90***
4.	**rsexual**	.11	-.04	.54***	.....	.03***	.22***	.06	.17**	.43***
5.	**violent**	-.03	-.12	.61***	.03	.....	.24***	.55***	.08	.53***
6.	**property**	.21***	-.13*	.674***	.22***	.24***	.....	.37***	.38***	.38***
7.	**alcdrug**	.09	-.12	.66***	.06	.55***	.37***	.....	.12	.59***
8.	**parole**	.26***	-.13*	.31***	.17**	.08***	.38***	.12	.....	.13*
9.	**other**	.10	-.07	.90***	.43***	.53***	.38***	.59***	.13*	.....

NOTE: Offtype = offender type; comptrt = treatment completion; all crime = recidivism for all crimes, rsexual = sexual recidivism; violent = violent, non-sexual recidivism; property = property recidivism; alcdrug = alcohol or drug recidvism; parole = recidivism for a parole violation; and other = any other form of recidivism)

*$p \leq .05$; **$p \leq .01$; ***$p \leq .001$ (two-tailed)

Table 4

Correlation Matrix Depicting Bivariate Relationships Between Self-Control and Dependent Measures

		fail	quit	expell	trouble	jobins	alcuse	sdrugs	hdrugs	prescip	MAST	DAST
1.	**offtype**	.07	.10	.10	.22***	.13	.14*	.15*	.13*	.15*	.30***	.18
2.	**comptrt**	-03	-.16*	.07	.05	-.08	.02	.09	.02	-.09	-.03	.19
3.	**allcrime**	.05	.08	.03	.11	.18**	.16**	.16*	.14*	.03	.21*	.00
4.	**rsexual**	-.02	-.03	.01	-.04	.09	.11	.01	.04	.01	.12	.09
5.	**violent**	.03	.07	.05	.17**	.17**	.15*	.20**	.12	-.03	.18*	.14
6.	**property**	.11	.07	.02	.10	.11	.05	.10	.10	.01	-.01	-.08
7.	**alcdrug**	.04	.10	.03	.14*	.17**	.21***	.21***	.15*	.01	.38***	.05
8.	**parole**	.05	.10	.10	.14*	.10	.11	.12	.20**	-.07	.28***	.21*
9.	**other**	.02	.06	.01	.06	.13	.12	.10	.09	.06	.25**	-.02

NOTE: fail = failed a grade; quit = quit school; expelled = expulsion from school on at least one occasion; trouble = level of trouble while at school; jobins = level of job instability; alcuse = level of alcohol use; sdruguse = level of soft drug use; hdruguse = level of hard drug use; prescrip = abuses prescription drugs; MAST = MAST score; DAST = DAST score; offtype = offender type; comptrt = treatment completion; all crime = recidivism for all crimes, rsexual = sexual recidivism; violent = violent, non-sexual recidivism; property = property recidivism; alcdrug = alcohol or drug recidvism; parole = recidivism for a parole violation; and other = any other form of recidivism)

$^*p \leq .05$; $^{**}p \leq .01$; $^{***}p \leq .001$ (two-tailed)

Table 5

Correlation Matrix Depicting Bivariate Relationships Between Offender Characteristics and Dependent Measures (i.e Offender Type, Treatment Completion, and Recidivism)

		age	educ	mstat	ethnicity	nprior	nspior	jail	prob	trmonth	postpri	postpro
1.	**offtype**	-.19**	-.01	-.01	.18**	.21***	.15*	.28***	-.14*	.08	.05	-.01
2.	**comptrt**	-.04	.15*	.01	-.13*	-.08	-.06	.02	-.04	.75***	-.68***	.62***
3.	**allcrime**	-.28***	-.05	.03	.14*	.44***	.07	-.12	-.02	-.11	-.06	-.03
4.	**rsexual**	-.10	.03	-.02	-.05	.12	.19**	-.08	.12	-.04	-.06	-.01
5.	**violent**	-.26***	-.04	.03	.13*	.26***	-.03	-.08	-.10	-.09	-.03	-.07
6.	**property**	-.24***	-.02	.01	.02	.28***	-.00	-.10	.04	-.10	-.05	-.03
7.	**alcdrug**	-.22***	-.07	.09	.25***	.44***	.07	-.05	-.07	-.10	-.00	.20**
8.	**parole**	-.18**	.02	-.02	.20**	.16**	.01	.21***	-.12	.01	.20**	-.07
9.	**other**	-.18**	-.07	.04	.15*	.42***	.04	-.13*	-.05	-.09	-.08	.00

NOTE: age = age in years; education = educational attainment in years; mstat = marital status; ethnicity = offender's ethnicity; nprior = total number of prior offences; nsprior = number of prior sex offences; jailterm = length of prison term in months; probation = length of probation in months; trmonths = length of treatment in the Phoenix Program in months; postpris = length of prison sentence following discharge; postprob = length of probation following discharge from the Phoenix Program in months; offtype = offender type; comptrt = treatment completion; all crime = recidivism for all crimes, rsexual = sexual recidivism; violent = violent, non-sexual recidivism; property = property recidivism; alcdrug = alcohol or drug recidvism; parole = recidivism for a parole violation; and other = any other form of recidivism)

$^*p \leq .05$; $^{**}p \leq .01$; $^{***}p \leq .001$ (two-tailed)

Appendix C

CURRICULUM VITAE

Diane G. Symbaluk

Sociology Instructor
Social Sciences Department
Grant MacEwan Community College
6-372, 10700-104 Avenue NW
Edmonton, Alberta, Canada
T5J 4S2

Tel. (403)497-5322 (Office)
Fax (403)497-5308 (Office)
E-Mail: symbalukd@admin.gmcc.ab.ca

EDUCATION

1997 **Ph.D., Sociology** (Criminology)
University of Alberta, Edmonton, Alberta.
Criminology Comprehensive: December 18, 1994
Social Psychology Comprehensive: September 12, 1995
Candidacy Examination: August 20, 1996
Oral Defence: August 18, 1997

1993 **Master of Arts, Sociology**
(Experimental Social Psychology)
University of Alberta, Edmonton, Alberta.
Thesis Title: *Money, Modeling and Pain: The Role of Self-Efficacy and Pain Perception.*

1991 **Bachelor of Arts (Honours), Sociology**
University of Alberta, Edmonton, Alberta.
Thesis Title: *Activity Anorexia and its Implications for Amateur Wrestlers.*

PERSONAL INFORMATION

Date of Birth: October 21, 1967
Place of Birth: Edmonton, Alberta
Citizenship: Canadian
SIN: 638 294 033

TEACHING AREAS (* indicates the courses I have taught previously)

***Social Methodology**
Quantitative Methods
***Statistics**
Family
***Social Psychology**
Psychology-general
***Criminology**
Social Problems
Deviance
Collective Behavior
***Sociology**-Introductory

HONOURS AND AWARDS

Social Sciences and Humanities Research Council Doctoral Fellowship, May 1995 to May 1997.

Walter H. Johns Graduate Fellowship, September 1995 to April 1996.

Province of Alberta Graduate Scholarship, May 1994 to June 1995.

Department of Sociology Teaching Assistantship, September 1994 to April 1995.

Department of Sociology Teaching/Research Assistantship, September 1993 to April 1994.

Department of Sociology Teaching/Research Assistantship, September 1992 to September 1993.

Province of Alberta Graduate Scholarship, September 1992 to June 1993.

Department of Sociology Teaching/Research Assistantship, September 1991 to September 1992.

Department of Sociology Research Assistantship, September 1990 to April 1991.

RESEARCH AND TRAVEL GRANTS

Mary Louise Imrie Travel Award, University of Alberta, 1994.

Clifford H. Skitch Travel Award, University of Alberta, 1994.

Sociology Graduate Travel Award, University of Alberta, 1994.

Mary Louise Imrie Travel Award, University of Alberta, 1993.

Clifford H. Skitch Travel Award, University of Alberta, 1993.

Sociology Graduate Travel Award, University of Alberta, 1993.

EMPLOYMENT HISTORY

Teaching:

Instructor: **Introductory Sociology** (Sociology 100). Arts and Science Division, Grant MacEwan Community College. Winter, 1997; Fall, 1996; Fall, 1995.

Instructor: **Introductory Sociology Computer Managed Learning Version** (Sociology 100). Arts and Science Division, Grant MacEwan Community College. Winter, 1997; Fall, 1996.

Instructor: **Introductory Social Psychology** (Sociology 241). Department of Sociology, University of Alberta. Spring, 1994.

Instructor: **Criminology** (Sociology 225). Arts and Science Division, Grant MacEwan Community College. Winter, 1997; Fall, 1996; Spring, 1995. Department of Sociology, University of Alberta. Spring, 1995.

Instructor: **Introduction to Social Statistics** (Sociology 210). Arts and Science Division, Grant MacEwan Community College. Fall, 1996.

Laboratory Instructor: **Introduction to Social Statistics** (Sociology 210). Arts and Science Division, Grant MacEwan College. Fall, 1996. Department of Sociology, University of Alberta. Fall, 1993.

Instructor: **Introduction to Social Research Methods** (Sociology 315). Arts and Science Division, Grant MacEwan College, Winter, 1997.

Laboratory Instructor: **Social Research Methods** (Sociology 315). Department of Sociology, University of Alberta, Winter, 1994; Summer,1994. Arts and Science Division, Grant MacEwan College, Winter, 1997.

Teaching Assistant:

Introductory Sociology (Sociology 100). Department of Sociology, University of Alberta, Winter, 1995.

Deviance (Sociology 224). Department of Sociology, University of Alberta,Winter, 1995; Fall, 1994.

Collective Behavior (Sociology 343). Department of Sociology, University of Alberta, Fall, 1994.

Guest Lectures: *Guest Lecturer:* Social Psychology (SOC 241); Criminology (SOCI 225); Collective Behavior (SOC 343); Social Research Methods (SOC 315); Quantitative Methods in Social Research (SOC 515); Reinforcement and Social Behavior (SOC 442); Introductory Sociology (SOC100); Introductory Statistics (SOC 210) and Sociology of Gender (SOC 301).

Teaching Evaluations: My most recent evaluations are from Winter session, 1997.
Sociology 225, Section 10; Sociology 315, Section 40
Both classes gave me an overall instructor assessment rating of 5.4 on the 6-point scale ranging from 1 (disagree) to 6 (agree). The highest rankings (5.8) I received were for the items: *The instructor appears well informed in the subject area of the course.* [and]*The instructor seems genuinely concerned with the progress of the students.*

Research: *Data Analyses*. I have conducted **data analyses** using a variety of statistical packages including: Midas, SPSS, SPSS PC+, SPSS Studentware and SPSS Windows for IBM as well as Statsview 512, SuperAnova and Excel for Macintosh.

Researcher: I was part of a research team that conducted a **cross-national survey** designed to assess academics' persisting beliefs in the Hawthorne Effect despite the weight of disconfirming evidence. Department of Sociology and Educational Psychology, University of Alberta, 1995.

Researcher: I adminstered **delinquency surveys** to secondary students from Edmonton public and private school systems. In addition, I was part of a team who coded the surveys for data analysis. Centre for Criminology, University of Alberta, 1994.

Researcher: I wrote a **research proposal** in which I designed several **experiments** for testing the effectiveness of bubble packing for preventing hip injury in pedestrians. In addition, I identified methods for obtaining feedback from potential customers, Department of Sociology & Rehabilitation Medicine, University of Alberta, 1994.

Researcher: For my masters, I designed and conducted a **3X3 factorial pain experiment on** 90 male university students to examine social factors (self-efficacy and pain perception) that mediate the effects of social modeling on pain endurance. Centre for Experimental Sociology, University of Alberta, 1993.

Researcher: For my honor's thesis, I conducted a **2x2x4 repeated measures analysis of variance experiment** on a group of amateur wrestlers to examine the implications of excessive exercise and food restriction on physiology. Centre for Experimental Sociology & The Rick Hansen Centre,1991.

Research Assistant: Department of Sociology, University of Alberta,1990 to 1993.

PUBLICATIONS

Resource Manuals/Books:

Symbaluk, Diane G. (1997). Study Guide to Accompany Kendall, Lothian-Murray, and Linden's *Sociology in Our Times: First Canadian Edition.* Toronto: ITP Nelson.

Symbaluk, Diane G. (1994). Teaching Resource Manual to Accompany Larson, Goltz, and Hobart's *Families in Canada*. Toronto: Prentice-Hall.

Book Chapters:

Symbaluk, Diane G. (1996). The effects of food restriction and training on male athletes. Chapter in W. David Pierce and W. Frank Epling (Eds.). *Activity Anorexia: Theory, Research and Treatment*. New Jersey: Lawrence Erlbaum.

Refereed Journal Articles:

Symbaluk, D.G., and Cameron, J. (under review). Teaching experimental design to college and university students. *Teaching of Psychology*.

Symbaluk, D.G., Heth, C.D., Cameron, J. & Pierce, W.D. (1997). Social modeling, monetary incentives and pain endurance: The role of self-efficacy and pain perception. *Personality and Social Psychology Bulletin, 23,* 258-269.

Wheeler, G., Symbaluk, D. Pierce, W.D., McFaydan, S. & Cumming, D.C. (1992). Effects of training on serum testosterone and cortisol levels in wrestlers. *Clinical Journal of Sport Medicine*, 2, 257-260.

Book Reviews:

Symbaluk, Diane G. (1995). Women's work is never done: Resolving gender inequalities in education. *Alberta Journal of Educational Research, XLI,* 231-235.

Refereed Abstracts:

Symbaluk, D., Cameron, J., Pierce, W. & Epling, W. Effects of social modeling and monetary reinforcement on pain perception and tolerance: The role of self-efficacy. *Proceedings of the Association for Behavior Analysis (ABA) I nternational, 1993*: Chicago, Illinois: Society for the Advancement of Behavior Analysis (SABA), 1993: 327.

Wheeler, G., Symbaluk, D., Pierce, W.D., Epling, W.F., & Cumming, D.C. (1991). Fluctuations in serum testosterone and cortisol in young wrestlers. *Proceedings of Sports Medicine and Human Performance International Congress and Exposition*: Vancouver, British Columbia, April, 1991.

RESEARCH IN PROGRESS

Symbaluk, D. Study Guide to accompany a brief version of Kendall, Lothian-Murray, and Linden's Sociology in Our Times: First Canadian Edition. ITP Nelson.

Symbaluk, D. & Creechan, J. A not so General Theory of Crime: Applying Gottfredson and Hirschi's General Theory to Sex Offenders. Article in progress.

Symbaluk, D.G. & Jones, K. Commercial Sex: How do the Johns view this? Article in progress.

Symbaluk, D. G., Jones, K., M., Schreiber, E., & Quinn, K. Edmonton Prostitution Offender Program Questionnaire Results: An Overview and Discussion. Report for exclusive use of the Edmonton Police Service.

PRESENTATIONS

Professional Meetings:

Symbaluk, D. Sex offenders: What do we know about them. More importantly, what should we know about them. *Eighth Annual Research Day,* Department of Sociology, University of Alberta, Edmonton, Alberta, November, 1995.

Symbaluk, D. The Hawthorne Effect: Disconfirming evidence and cognitive dissonance. *Seventh Annual Research Day*, Department of Sociology, University of Alberta, Edmonton, Alberta, November, 1994

Symbaluk, D. Money, modeling and pain: A causal analysis. *American Psychological Association Annual Conference,* Los Angeles, California, August, 1994.

Symbaluk, D. Social modeling and pain: A path analysis. *Canadian Society and Anthropology Association Annual Conference (Learneds)*, Calgary, Alberta, June, 1994.

Symbaluk, D. Money, modeling and pain: A path model. Poster Session, *Research Revelations*, University of Alberta, Edmonton, Alberta, April, 1994.

Symbaluk, D. Social modeling, monetary incentives and pain endurance: The role of self-efficacy and pain perception. *Sixth Annual Research Day*, Department of Sociology, University of Alberta, Edmonton, Alberta, November,1993.

Symbaluk, D. Money, modeling and pain. *Association for Behavior Analysis Annual Conference,* Chicago, Illinois, May, 1993.

Symbaluk., D. Money, modeling and pain: A thesis proposal. *Fifth Annual Research Day*, Department of Sociology, University of Alberta, Edmonton, Alberta, November, 1992.

Symbaluk, D. Activity anorexia and its implications for amateur wrestlers. *Fourth Annual Research Day,* Department of Sociology, University of Alberta, November, 1991.

COURSE DEVELOPMENT PROJECTS

Computer Managed Learning

I recently designed a sociology course for the Arts and Sciences Division, Grant MacEwan Community College (*Introductory Sociology: A CML Approach*). The course utilizes a computer based testing approach that corresponds to an individual study method of instruction. Students are provided with a manual that includes learning objectives, outlines methods for maximizing benefits obtained through study guides, etc. in lieu of class room instruction. An individual study method allows students to complete course units at their own pace (e.g., writing examinations within a time frame rather than on specific dates). Students learn the course material in small units (i.e., one chapter is tested at a time) and must meet a set criterion of 80% before moving on to subsequent chapters. Testing criteria along with one-on-one consultation sessions with the instructor ensures that students understand the material and are progressing through the course. The computer managed learning version of Sociology 100 was introduced in the Fall of 1996.

Expanding Undergraduate Course Offerings

Introduction to Social Statistics and Research Methodology.

I designed an Introductory Statistics (SOCI 210) and Research Methodology (SOCI 315) course for the Arts and Sciences Division, Grant MacEwan Community College in the fall and winter of 1995. Both syllabuses were approved as university transfer courses and were implemented as part of program offerings in 1996 and 1997, respectively.

Social Psychology.

I recently designed a social psychology (SOCI 241) course for students majoring in *sociology*. My course outline that includes course content, course format, and applicable textbook selections was approved by the chair of the University Transfer Program at Grant MacEwan and will be implemented in the winter of 1998.

A New Graduate Course in Social Psychology

I designed a graduate seminar course on social psychology (SOC 505: Select Topics in Social Psychology) as part of my social psychology comprehensive examination requirement. The course is set up to focus on three main areas: social cognition, social perception and social influence with emphasis on five key topics including: inference processes, cognitive structures, explanations for our own behavior, explanations for the behavior of others, and obedient and conforming behaviors.

Instructor's Manual

I wrote an Instructor's Manual for teaching Sociology of the Family to accompany Lyle E. Larson, J. Walter Goltz and Charles W. Hobart's (1994) *Families in Canada: Social Context, Continuities and Changes*, published by Prentice-Hall Inc. For each chapter, I provided an overview, review questions and answers, teaching suggestions, discussion topics and media notes.

Study Guide

I recently completed a study guide to accompany Kendall, Lothian-Murry, and Linden's (1997) Sociology in Our Times: First Canadian Edition, published by ITP Nelson. For each chapter, I included an outline, overview, set of key terms, review of key terms, set of key people, review of key people, list of 20 learning objectives, and a series of learning objective tests. Learning objective tests consisted of multiple choice, true-false, fill-in-the-blank, and matching statements.

Technique for Teaching Experimental Design

I recently submitted a co-authored paper to *Teaching of Psychology* that outlines a technique for teaching experimental design to college and university students (see Symbaluk and Cameron under revision in the refereed publication section). Using this procedure, students replicate a classic experiment, collect data, analyze the information and write a research report based on the findings. Step-by-step instructions are given to help instructors set up this demonstration in their own classroom.

PROFESSIONAL DEVELOPMENT

Toast Masters International

To improve my public speaking, communication and leadership skills, I attended Toast Masters International, Bowmen Club 2161 from February, 1995 to February, 1996. During two-hour weekly meetings there were several opportunities to give speeches on a variety of topics that were formally evaluated (and videotaped) by other members. The oral and written feedback helped me improve my communication skills and build self-confidence. The club also provided opportunities to evaluate others which improved my skills at providing constructive criticism during interactions with students.

I received the award: *Rookie of the Year* for my performance in the Bowmen Club during 1995.

New Faculty Orientation Workshop. August 22-24, 1996
To get better acquainted with the administration and workings of Grant MacEwan Community College, I recently attended a new faculty orientation. Some of the issues covered during the three-day workshop included elements that enhance teaching, factors that limit teaching, ways to capture the attention of students, course planning strategies, and campus resources.

High Impact Teaching Workshop. September 21, 1996
To learn about alternative styles of teaching and to improve upon my own teaching techniques, I underwent a high impact teaching workshop. This session informed me of the many different kinds of learners in a classroom and taught me of ways to develop interactive learning in my classes. For example, students who are "process-oriented" require lots of time for questions and answers. In addition, these individuals learn better via a lecture format that is conducted at a moderate, thorough pace. In contrast, "people-learners" tend to work better at a slower pace and absorb information more readily when they work in groups.

Introduction to the Internet. October 31, 1996
In order to climb aboard the "information highway", I recently attended a class on using the internet. The course provided background information on what the internet is and how the internet works, as well as "hands-on" experience using various netscape navigators. The class spent time using the internet to send e-mail messages, access discussion groups, and become familiar with research tools including "Yahoo" and "webcrawler."

Introduction to Powerpoint. October 31, 1996
In order to "keep up to date" on today's technology and to learn how to use presentation software in the classroom, I recently attended a three-hour class on using Powerpoint software. The course illustrated ways in which materials can be created and presented using Powerpoint. This session consisted primarily of "hands-on" experience developing presentations, outlines, and hand-outs for use in classroom instruction.

COMMITTEE POSITIONS

Appointed, Executive
Research Ethics Policy Development Committee
Grant MacEwan Community College, 1997.

Elected, Secretary,
Bowmen Toastmasters Club #2161
Sherwood Park, Alberta, 1995-1996

Elected, President, Sociology Graduate
Students' Association (SGSA),
Department of Sociology,
University of Alberta, 1994-1995.

Elected, Ph.D. Student Representative,
Executive Council, Department of Sociology,
University of Alberta, 1994-1995.

Elected, jointly appointed executive
for the Safety on Campus Committee,
University of Alberta, 1993-1994.

Elected, jointly appointed executive for
the Council on Student Life,
University of Alberta, 1993-1994.

Elected, Vice-President Sociology
Graduate Students' Association,
Department of Sociology,
University of Alberta, 1993-1994

MEMBERSHIP IN ASSOCIATIONS

Association for Behavior Analysis

American Psychological Association

Canadian Sociology and Anthropology Association

Toastmasters International, Club 2161

Block Parents Association, Sherwood Park

REFERENCES

Robert Silverman, Ph.D., (Criminology, Criminal Justice).
Dean, Faculty of Arts and Sciences, Queens University, Kingston, Ontario, Canada, K7L 3N6, phone (613) 545-2446; fax (613) 545-2067.

Dr. Silverman was my Ph.D. supervisor until December, 1996. Dr. Silverman was head of my criminology comprehensive examination committee. I also worked as a part-time teaching assistant to Dr. Silverman in Winter, 1995.

W. David Pierce, Ph.D., (Social Psychology, Behavior Analysis, Research Methods), Professor of Sociology, Adjunct Professor of Neuroscience, Director of the Centre for Experimental Sociology, Department of Sociology, University of Alberta, Edmonton, Alberta, Canada, T6G 2H4, phone: (403)492-0485, fax (403)492-7196.

Dr. Pierce was my supervisor in my honors and masters programs. I also worked as a research assistant to Dr. Pierce from 1990-1993.

Judy Cameron, Ph.D., (Psychology, Education, Research Methods).
Associate Professor, Educational Psychology, University of Alberta, Edmonton, Alberta, Canada, T6G 2H4, phone (403)492-0177, fax (403)492-0236.

Dr. Cameron is currently on my Ph.D. defence committee and previously sat on my Ph.D. candidacy committee and my master's committee. I recently finished a journal article that I co-authored with Dr. Cameron.

Edy Wong, Ph.D., (Economics, Asia Pacific Program)
Grant MacEwan Community College, 6-378, 10700-104 Avenue, Edmonton, Alberta, Canada, T5J 4S2, phone (403)497-5324, fax(403)497-5398.

Dr. Wong is currently the Chair of the Social Sciences Department and Asia-Pacific Management Program at Grant MacEwan Community College.
